S. HRG. 101-679

RESIDENTIAL ENERGY EFFICIENCY RATINGS ACT

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY REGULATION
AND CONSERVATION

OF THE

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

ON

S. 1355

TO ASSIST PRIVATE INDUSTRY IN ESTABLISHING A UNIFORM RESIDENTIAL ENERGY EFFICIENCY RATING SYSTEM, AND FOR OTHER PURPOSES

MARCH 27, 1990

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RESIDENTIAL ENERGY EFFICIENCY RATINGS ACT

TUESDAY, MARCH 27, 1990

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:40 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Dale Bumpers presiding.

OPENING STATEMENT OF HON. DALE BUMPERS, U.S. SENATOR FROM ARKANSAS

Senator BUMPERS. Today the Subcommittee on Energy Regulation and Conservation hears testimony on S. 1355, legislation which I have sponsored to encourage the national adoption of a uniform voluntary energy efficiency rating system for homes. I want to thank Subcommittee Chairman Metzenbaum for agreeing to allow me to chair this hearing and his able staff for their assistance.

A national home energy efficiency rating system will have energy conservation benefits, expand the pool of affordable housing, and by reducing demand for carbon dioxide producing fossil fuels, have a positive effect on the greenhouse effect. Energy ratings for homes have been available for several years and a variety of programs have been implemented in the states. Now there appears to be a growing interest in establishing a uniform system for home energy ratings at the national level.

As a long time advocate of energy conservation, I am pleased to see the growing momentum toward more energy efficient homes. Most American families know only too well that their homes are the most expensive, energy consuming item they own. Every drafty window, under-insulated attic, and inefficient heating system puts additional strain on the family budget. Each month, as they sit down to pay their utility bills, many homeowners are literally throwing money out the window.

While my bill alone will not make homes more energy efficient, a national rating system will help home buyers and mortgage lenders factor energy costs into their private price calculations. Energy efficiency ratings are already common place for appliances and it seems only natural for the Federal Government to encourage the same sort of ratings for homes.

The concept for a national program and S.1355 is based on the successful pilot efforts of energy efficiency rating systems in Ar-

kansas and other states. The pilot programs are operated by non-profit entities and were developed through the voluntary core operation of lenders, mortgage insurers, real estate professionals and builders. Homes are rated on a 100 point scale which translates to a one to five star rating. One star is below average, five star is very efficient.

The rating sheet also includes information on the amount of energy projected to be purchased annually for heating, cooling, hot water, lighting and appliances as well as the estimated utility costs.

Finally, the analysis provides a list of energy efficiency improvements which can be made to the house to improve its energy rating.

My bill does not address the concept of the energy efficient mortgage, which is often used in conjunction with energy rating systems. But that is only because mortgage programs are within the jurisdiction of the Banking Committee, not because I feel that energy efficient mortgages are unimportant.

I fully support the concept of mortgages that allow home buyers to incorporate the cost of approved energy efficiency measures. A strong linkage between rating systems that inform the home buyer about cost effective energy improvements he can make to his home and the possibility of financing those improvements in an energy efficient mortgage is obviously beneficial to the home buyer. And since it will result in a more energy efficient housing stock, the combination of ratings and financing will provide the nation with significant energy and environmental benefits.

At the present time, there are several programs available in the secondary mortgage market which permit home buyers to incorporate the costs of certain energy efficiency home improvements in their mortgage. However, these programs are complicated and under-utilized. I understand that the Banking Committee will be including a provision in S. 566, Legislation on Affordable Housing, that directs the secretary of HUD in consultation with the secretary of Energy, to come up with a uniform plan to make energy efficient homes more affordable through mortgage financing incentives.

I am pleased to hear about this initiative because it will complement work this subcommittee is doing on the uniform energy rating system.

During today's hearings, I know that the Subcommittee will hear about the status of existing energy rating programs and the potential benefits of a uniform rating system. I hope we will also have a serious debate about the best approach to take in developing and implementing uniform energy ratings across the country.

Last October, the Alliance to Save Energy held a conference on making housing more affordable through energy efficiency, which included a workshop on home energy rating systems. I understand there was a substantial debate on how to establish a national system.

Some of the questions explored there are also pertinent to this hearing today. For example, should the Federal Government set guidelines and program rules for home energy rating systems with the State Energy Offices developing and administering the pro-

grams? And should the ratings be mandatory? This has been the model of many federal energy conservation programs in the past, and the system has many advantages.

Or should the Federal Government simply establish and fund a non-profit organization with a mission of developing guidelines for home energy ratings programs. Should there be few restrictions on who can develop and deliver the home rating systems as long as they meet the guidelines and quality control requirements set by the non-profit organization? Should ratings be voluntary?

S. 1355 takes the latter approach while I understand the Department of Energy prefers the more traditional approach. Before we begin the debate, I want to emphasize the positive. We are going to hear general agreement today that a national policy for home energy ratings systems should be established and I look forward to hearing everyone's views as to how we can best establish a uniform national energy rating system and to incorporating those suggestions into S. 1355.

My own very strong belief is that a national rating system can help consumers make intelligent choices by letting them compare apples with apples.

According to a 1986 study, if used in the mortgage process, a uniform rating system will have a 11 to 22 percent more families qualifying for home ownership. That is approximately a quarter of a million families a year. Owning a home is the American dream and if we can make it just a little bit more affordable, all of us will benefit.

With that, I would also like to point out that Senator Stevens, who is on his way back from Alaska, wanted to be here and give his opening statement. Apparently, he is not going to make it, so at this point we will insert his opening statement on the record.

[The prepared statements of Senators Murkowski and Stevens and the text of S. 1355 follow:]

STATEMENT OF SENATOR FRANK H. MURKOWKSI
ON
THE NEED FOR AN ENERGY EFFICIENCY RATING SYSTEM AND THE USE OF ENERGY EFFICIENT MORTGAGES

Mr. Chairman:

I would like to begin by commending my colleague from Arkansas for the work he has done in trying to establish a uniform residential energy efficiency rating system. I doubt that any state in the nation has more of an interest in energy efficiency than Alaska -- just this winter some parts of my state were blessed with over 35 feet of snow!

Energy efficiency is a very serious issue in Alaska and the state is one of the nation's leaders in developing and implementing energy conservation and ratings systems. For example, the Alaska Department of Community and Regional Affairs has established a public/private partnership called Energy Rated Homes of Alaska which is charged with the responsibility of developing a rating system for all homes in the state that receive mortgage assistance.

Energy Rated Homes of Alaska has proven to be an easy and inexpensive way to verify a home's energy efficiency in order to qualify for what are known as EEM's or Energy Efficient Mortgages. An Energy Efficient Mortgage provides an easy way for home buyers to qualify for a larger mortgage than would otherwise be available when purchasing a home that is rated energy efficient. The idea behind EEM's is that if a buyer has lower monthly energy costs because he or she is purchasing an energy efficient home then that buyer will be more able to satisfy his or her debt service obligations.

This is a good policy for everyone involved. The homebuyer is able to purchase a bigger home than they could otherwise afford, and the country is better off because we conserve more energy.

The successes that have been achieved in Alaska are just the tip of the iceberg, however. Alaska's climate demands that energy efficiency be a top priority. Just last year the Alaska Rural Housing Needs Assessment survey reported that 28% of the homes surveyed in rural Alaska were unable to maintain an indoor temperature of 70 degrees. Even more shocking was the report that in some cases up to 40% of a rural family's disposable income is spent on energy.

These energy costs for rural Alaskans must be brought under control. For too many rural Alaskans, once they have paid the debt service on their mortgage and their monthly energy costs -- there is nothing left.

One of the answers to this problem is the more efficient use of energy. Through the use and proper maintenance of an efficient heating system rural Alaskans can reduce their energy costs by up to 50%. That 50% saving could mean that more could be spent on clothing, health care and the other basic human needs that all too often go unmet.

Mr. Chairman, I think we would all agree that increasing energy efficiency is a national priority and that we should provide incentives to encourage this activity. It is my understanding that several federal mortgage lenders have established a mechanism for encouraging the use of Energy Efficient Mortgages. Unfortunately, people in Alaska tell me that these

programs often go underutilized because the VA, FHA, Fannie Mae and Freddie Mac all have different compliance requirements.

Mr. Chairman, as this subcommittee considers the need to unify the energy rating system I think we should also review the possibility of establishing a uniform energy efficiency mortgage program. I look forward to working with my colleagues in this regard.

STATEMENT OF SENATOR TED STEVENS

BEFORE THE

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

IN SUPPORT OF S. 1355,
THE RESIDENTIAL ENERGY EFFICIENCY RATINGS ACT

Tuesday, March 27, 1990
9:30 a.m.
Washington, D.C.

MR. STEVENS: Mr. Chairman, I appreciate the opportunity to testify today in support of S. 1355, the Residential Energy Efficiency Ratings Act. I commend Senator Bumpers for his foresight in promoting home energy efficiency through market mechanisms and the other cosponsors for their support.

Earlier this month I met with Steve Baden, Chief of Energy Programs for the Alaska Department of Community and Regional Affairs. According to his data, Alaskans spent a whopping $1 billion a year to heat their homes last year. That means that the average family of four spent about $5,000 of their annual income just to keep warm -- about $400 a month. In Alaska energy represents the largest cost of housing outside of mortgage payments and rent.

Despite temperature swings that range from 100 degree above to 70 degrees below, the average Alaskan family lives in a poorly insulated home with leaky windows and drafty doors. While summer heating costs are relatively low, unless you've experienced it yourself, you cannot imagine how tough it is to keep a house heated when it's 60 below zero for weeks at a time -- especially if you heat with firewood as many rural Alaskans do.

In response to our unique climatic challenges, Alaska developed its own system of home energy efficiency ratings. The program is an innovative partnership between the State of Alaska and the state's housing industry that provides voluntary, but uniform home energy efficient ratings statewide. In conjunction with the state's mortgage industry, the system allows consumers and the housing industry to use energy efficiency as a free market tool to foster affordable, energy efficient housing.

Home energy ratings give home buyers access to information on the home they are buying similar to the EPA ratings on automobiles and the DOE ratings on home appliances. The ratings, which range from a low of one to a high of five, give prospective home buyers information on energy conservation and project their annual heating costs.

Without a uniform energy rating system, consumers, real estate agents, mortgage lenders, builders, appraisers, and utilities would be confused by a maze of competing rating systems that each view a home's efficiency differently -- just as we see today with food labels.

The ratings offer valuable suggestions for improving energy conservation through insulation, caulking, weather-stripping, and other measures. Finally, they provide an accepted system that mortgage lenders can use in determining the amount a person can borrow and still afford to heat his new home. For example, if a home gets the highest rating of five, an Alaskan can borrow more and support a larger house payment, because he will be spending less on heat. But if the home is rated only one, the bank will lend less because more of the borrower's disposable income will be taken up with heating bills.

While a uniform, voluntary home energy system is an important first step, it does not completely solve the problem. More needs to be done to improve the initial construction of government built housing. It takes only $6,000 to bring a new house up to the highest energy conservation standards. When these improvements are added, heating costs go from $400 a month to $200 a year -- a savings of $4,600 a year. That means the cost of the improvements can be recouped in just a year and a half.

The Indian Health Service and the Department of Housing and Urban Development should be required to build new homes to these highest standards. The current state of much of that housing in Alaska is deplorable with ice on the walls and the curtains frozen to the windows like glue because of poor insulation. Those who are most in need of this housing are the least able to support soaring energy bills. We ought to explore the possibility of raising the cap on construction costs to include these energy conservation features.

Senator Bumpers' bill builds on the success of Arkansas's and Alaska's program and extends it nationwide. Only when we have a truly national rating system will consumers routinely consider energy efficiency in their housing choices. Likewise, the lending industry needs a uniform national system before it will integrate energy conservation fully into its lending decisions.

This is an idea whose time has come as Alaska, Arkansas, and the other three pilot states have proved. Senator Bumpers, I ask that my name be added to the list of cosponsors who support this legislation.

101ST CONGRESS
1ST SESSION

S. 1355

To assist private industry in establishing a uniform residential energy efficiency rating system, and for other purposes.

IN THE SENATE OF THE UNITED STATES

JULY 19 (legislative day, JANUARY 3), 1989

Mr. BUMPERS (for himself and Mr. JEFFORDS) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

A BILL

To assist private industry in establishing a uniform residential energy efficiency rating system, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Residential Energy Efficiency Ratings Act".

SEC. 2. DEFINITIONS.

For purposes of this Act—

(1) the term "cost-effective residential energy efficiency improvements" means residential energy efficiency improvements that will result in a reduction in

the monthly cost of supplying energy to a residence in an amount greater than the increased amount of principal and interest that would be required to be paid monthly if the amount of a residential mortgage loan were increased to cover the cost of installation;

(2) the term "residential energy efficiency rating contractor" means the qualified residential energy efficiency rating organization with which the Secretary of Energy enters into a contract pursuant to section 3;

(3) the term "residential energy efficiency improvements" means the design, manufacture, and installation of features in a residence, including structural changes, insulation, weatherproofing, heating, ventilating, and air conditioning systems, and water heaters and other major appliances, that have the potential of contributing to the efficient use of energy in or a reduction in energy loss from a residence;

(4) the term "residential building industry" means persons engaged in the design, construction, marketing, and financing (including secondary financing) of residences and residential energy efficiency improvements, including building contractors, architects, appliance manufacturers and dealers, realtors, appraisers, inspectors, lenders, participants in the secondary mortgage market, mortgage insurers, and other private and Gov-

ernment entities that engage in those activities or regulate, promote, or otherwise participate in those activities;

(5) the term "qualified residential energy efficiency rating organization" means a corporation or other legal entity that—

(A) has had experience in the development and administration of programs for the inspection of residences for the purposes of—

(i) assessing the efficiency with which they use energy, as compared with other residences in the same locality;

(ii) determining the monthly cost of supplying a residence's energy needs;

(iii) making recommendations for cost-effective residential energy efficiency improvements; and

(iv) reporting the results of such inspection to residence purchasers, residence owners, and their lenders;

(B) is an organization whose shareholders or members include a broad representation of the residential building industry;

(C) is an organization described in section 501(c)(3) of the Internal Revenue Code of 1986

exempt from taxation under section 501(a) of the Code; and

(D) is an organization capable of administering the uniform residential energy efficiency rating system described in section 3 on a self-sustaining basis after the expiration of the contract entered into pursuant to section 3(a);

(6) the term "rating system" means the uniform residential energy efficiency rating system developed by the residential energy efficiency rating contractor pursuant to section 3(a); and

(7) the term "residence" means a new or existing single-family residence (including manufactured housing), multiple family residence, or residential unit (such as a condominium or cooperative unit) in a multiple-family residence or multiple-purpose building that contains a residential unit.

SEC. 3. CONTRACT WITH RESIDENTIAL ENERGY EFFICIENCY RATING CONTRACTOR.

(a) IN GENERAL.—Not later than 6 months after the date of enactment of this Act, the Secretary of Energy shall enter into a contract with a qualified residential energy efficiency rating organization to develop a uniform residential energy efficiency rating system (as described in subsection (b)) within 2 years after the date of enactment of this Act and

to administer the system (as described in subsection (c)) for a period of 4 years following the date of contract.

(b) RATING METHODOLOGY.—(1) The rating system shall include a methodology which—

(A) provides a means of assessing the energy efficiency of, assigning a comparative energy efficiency rating to, and estimating the monthly cost of supplying energy to, a residence;

(B) includes an inspection and assessment of the basic structure of a residence (commonly known as the "building envelope"), including insulation, weatherproofing of doors and windows, orientation of windows, and air infiltration and circulation, and of the heating, ventilating, air conditioning, and water heating systems of a residence;

(C) is based on a scale that—

(i) accurately reflects the energy costs associated with each aspect of the structure and item of equipment to be inspected; and

(ii) is normalized for comparative purposes in a statistically acceptable manner; and

(D) is adapted for both manual and computer-aided application.

(2) The rating system shall prescribe, in order of energy efficiency and cost effectiveness, residential energy efficiency

improvements that may be recommended to improve the energy efficiency of a residence.

(3) The rating system shall be subject to statistical verification for accuracy.

(4) The rating system shall be designed to be acceptable to financing institutions, including participants in the secondary mortgage market. In developing the rating system, the residential energy efficiency rating contractor shall consult with participants in the residential shelter industry, including—

(A) the National Association of Residential Builders;

(B) the Mortgage Bankers of America;

(C) the Mortgage Insurance Companies of America;

(D) the National Association of Realtors;

(E) the Society of Real Estate Appraisers;

(F) the Institute of Real Estate Appraisers;

(G) the Federal National Mortgage Association;

(H) the National Association of Utility Regulatory Commissioners;

(I) the National Association of State Energy Officials;

(J) the Federal Housing Commissioner;

(K) the Farmers Home Administration;

(L) the Department of Veterans Affairs;

(M) the Assistant Secretary for Conservation and Renewable Energy of the Department of Energy; and

(N) the Association of State Housing Finance Agencies,

and invite public comments through notices published in the Federal Register by the Secretary of Energy.

(5) The Secretary of Energy shall make the services of the Lawrence Berkeley Laboratory available to assist the residential energy efficiency rating contractor in developing the rating system by providing data, technical evaluations and other analytical support.

(c) ADMINISTRATION OF RATING SYSTEM.—(1) The residential energy efficiency rating contractor shall—

(A) develop a course of instruction for training residential inspectors, realtors, appraisers and loan officers in the use of the residential energy efficiency rating methodology;

(B) in cooperation with State and local energy offices and members of the residential building industry, set standards for the licensing of State and locally authorized residential energy efficiency rating organizations, whose function will be the training of and the maintenance of a high level of proficiency among residential inspectors in the use of the residential energy

efficiency rating methodology developed pursuant to this section;

(C) provide assistance to State and local energy offices and members of the residential building industry in the establishment of residential energy efficiency organizations;

(D) draft proposed amendments of and additions to regulations, forms, and procedures to be recommended for adoption by Federal, State, and local administrative agencies in the interest of the uniform implementation of the provisions of this Act;

(E) maintain a national residential energy efficiency data bank containing the results of all residential energy efficiency rating inspections using the methodology developed pursuant to this section, for the purpose of compiling information on energy costs associated with the Nation's housing stock; and

(F) provide periodic consultation to State and local residential energy efficiency rating organizations and residential inspectors on technical matters relating to the methodology developed pursuant to this section and on other matters relating to the proper management and operation of the residential energy efficiency rating system.

(2) In order to provide non-Federal funds for the continued administration by the contractor of a uniform residential energy efficiency rating system, the contractor may assess fees for its services, at levels designed to reflect the cost of the service and approved by the Secretary of Energy.

(d) AUTHORITY TO EXTEND CONTRACT.—The Secretary may extend the contract entered into pursuant to subsection (a) for 2 years upon finding that continued Federal support is necessary to carry out the purposes of the Act.

SEC. 5. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated for carrying out the provisions of this Act $8,000,000 for each of fiscal years 1990 and 1991, $4,000,000 for fiscal year 1992, and $2,000,000 for fiscal year 1993, to remain available until expended.

○

Senator BUMPERS. Our first witness this morning is the Hon. Michael Davis, Assistant Secretary for Conservation and Renewable Energy of the Department of Energy.

Mr. Davis, please come forward.

STATEMENT OF MICHAEL DAVIS, ASSISTANT SECRETARY FOR CONSERVATION AND RENEWABLE ENERGY, DEPARTMENT OF ENERGY

Mr. DAVIS. Mr. Chairman, I will summarize my testimony.

Senator BUMPERS. If you will withhold just a moment, Mr. Davis. There is a resolution here in support of this whole proposition, by the National Association of Regulatory Utility Commissioners. I would like to also put that resolution on the record.

[The resolution follows:]

Resolution in Support of Residential Energy Efficiency Ratings Systems

WHEREAS, *A national home energy efficiency ratings system will have conservation benefits, expand the pool of affordable housing, and have a positive impact on the greenhouse effect and global warming; and*

WHEREAS, *Pilot uniform, voluntary, nonprofit energy efficiency ratings systems are now being successfully implemented in Rhode Island, Arkansas, Vermont, Alaska, Mississippi, and Washington; and*

WHEREAS, *These pilot efforts are operated by nonprofit entities and were developed through the voluntary cooperation of lenders, mortgage insurers, real estate professionals, appraisers, and builders, with the support of State energy offices, often utilizing oil overcharge funds; and*

WHEREAS, *A number of entities are capable of performing unbiased, objective ratings of total annual utility costs, including space heating and cooling, HVAC equipment and water heating efficiencies, lights, and appliances; and*

WHEREAS, *Federal support is essential for the establishment of similar programs in all 50 States and the District of Columbia; and*

WHEREAS, *S.1355, sponsored by Senators Dale Bumpers (D-AR) and James M. Jeffords (R-VT), would direct the Secretary of Energy to: (1) select a qualified residential energy ratings organization to develop a ratings system in consultation with participants in the residential shelter industry, energy conservation officials and others; (2) set standards for State energy rating organizations; (3) provide training and technical assistance; (4) maintain a national residential energy efficiency data bank; and (5) authorize Federal funds to support theses efforts for four years, after which time the organization is intended to be self-sufficient; now, therefore, be it*

RESOLVED, *That the Executive Committee of the National Association of Regulatory Utility Commissioners (NARUC), assembled at its 1990 Winter Committee Meeting in Washington, D.C., requests the Secretary of Energy and the President of the United States to include a national home energy efficiency ratings system with the attributes described herein in the National Energy Strategy now being developed; and be it further*

RESOLVED, *That the Executive Committee of the NARUC urges Congress to enact legislation to authorize and appropriate funds to promptly implement a voluntary, home energy efficiency ratings system in all fifty States and the District of Columbia.*

Sponsored by the Committee on Energy Conservation
Adopted February 28, 1990

Mr. DAVIS. Yes, sir. Mr. Chairman, I appreciate the opportunity to appear to discuss the Department of Energy's position on S. 1355, Residential Energy Efficiency Ratings Act. The bill has a worthy objective: to encourage residential energy efficiency by providing consumers with more information on the energy performance of the homes they buy. However, the Department of Energy strongly opposes S. 1355 as currently drafted.

The bill would mandate a uniform national rating system, direct up to $22 million to a single non-profit organization to carry out the work, and interfere with the relationship between DOE and its national laboratories.

DOE has supported the development and use of home energy ratings systems since the late 1970s. We have learned from this experience, and what we have learned is germane to this legislative proposal.

A credible system of home energy ratings can highlight energy efficient homes and give builders a basis for comparative claims. Home buyers in turn may benefit by obtaining additional information on their home purchase decisions, and a larger supply of energy efficient homes may result.

Utilities, particularly electric utilities, are in many cases advocates and supporters of ratings systems and also have additional expertise to bring to bear.

Home energy ratings have existed for decades, dating from the Edison Electric Institute's Gold Medallion Homes developed in the 1950s. After the energy crisis of the seventies, rating systems began to proliferate.

A review of these rating systems by DOE's Pacific Northwest Laboratory in 1982, updated in 1986, identified several hundred entities sponsoring home energy rating systems. However, only a few of the rating systems operating in 1982 were still in place four years later. New rating systems were taking their place, but with little change in total activity.

The impact of rating systems may be greatly increased if they are coupled with energy efficient mortgage programs, as you suggested. Traditionally, lending institutions have required that housing payments be no more than 28 percent of monthly income. When a lending institution approves an energy efficient mortgage, it may increase this ratio to 32 percent. A higher mortgage payment is justified by the reduced energy costs.

For example, a home might ordinarily sell for $75,000 and carry a mortgage of $70,000. The monthly mortgage and interest payment, assuming 10 percent over 30 years, would be about $615 a month. With an energy efficiency mortgage, based on a home energy rating, a builder could add a $2,000 energy efficiency package, increasing the size of the mortgage to $72,000, but reducing the energy costs by 15 to 20 percent. The resulting mortgage payment would increase to about $632 a month, but would be offset by lower energy bills.

As shown in this example, rating systems and energy efficiency mortgages do not necessarily increase housing affordability. Mortgage costs may be traded for energy costs, but the nation will save energy, utilities will reduce their need for new energy supplies, and home builders will build more efficient houses.

More than six years ago, announcements endorsing energy efficiency mortgages were made by the principal purchasers of home mortgages in the secondary mortgage market. The Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation encouraged primary lenders to write energy efficiency mortgages and offered to purchase some mortgages. Despite these announcements, fewer than one half of 1 percent of the mortgages written today are energy efficiency mortgages.

The experience to date shows that a different approach is needed if residential energy ratings and energy efficiency mortgages are to achieve widespread acceptance and use. Encouraging the states and public utility commissions to go forward with a variety of incentives and rating systems may provide better answers than a single national approach.

S. 1355 would place the primary responsibility for the development of the rating system with a qualified residential energy efficiency rating organization. The bill defines the qualifications that must be met by this organization. It must be a non-profit organization with experience in the residential energy efficiency rating field and have the capability of administering the program on a self-sustaining basis after the expiration of the contract. There are organizations that meet these requirements; however, many utility, home builder and research organizations would be excluded, as would DOE, which has substantial experience in home energy audits through its Conservation and Weatherization Assistance programs.

The bill would direct DOE to enter into a multi-year contract with this organization, providing 18 months to develop the rating system and 4 years to administer the system. The authorization for this effort is $22 million. The bill would also direct the Secretary of Energy to make the services of Lawrence Berkeley Laboratory available to assist the contractor. The Department objects strenuously to the specification of a particular DOE laboratory.

These provisions couple an appropriate national objective with special contract arrangements that appear designed to benefit preselected organizations. The Department's objective is to use the expertise and experience gained during the past 15 years to have an immediate influence on the energy efficiency of the nation's homes, other buildings and other end uses. Encouragement of residential energy rating systems and energy efficiency mortgage programs can move us toward this objective.

As evidence of this commitment, the Department requested $1.5 million in the fiscal year 1991 budget for acceleration of near-term conservation, including work to promote adoption of uniform home energy ratings and energy efficiency mortgage systems. We believe that DOE leadership, exercised directly or through any public or private organization with relevant experience, would be more effective in getting the participation of all the other parties with an interest in encouraging home energy efficiency.

These parties would include Federal agencies, secondary mortgage institutions, state and local governments, financial institutions, home builders, utilities, sponsors of rating systems, and energy conservation and environmental organizations.

The Department recommends that no new legislation be enacted at this time. DOE intends, rather, to proceed with two tasks that would meet the objectives of S. 1355. These are to develop voluntary national criteria for home energy rating systems which are able to accommodate appropriate regional variations and to break down barriers to the use of energy efficiency mortgages. DOE would work closely with other organizations with an interest in these goals. Our approach first would be to seek a consensus with the affected interests on the criteria needed for a rating system to be validated, then, we would attempt to recognize the rating systems that meet these consensus requirements. This approach would build on existing rating systems, although several would need to be upgraded, and thereby would expand the participation and support of the program

The time is appropriate for a vigorous effort in these areas. Utilities are giving increased attention to their demand-side programs. The National Association of Home Builders has proposed a national energy plan that advocates new energy efficient homes that meets rigorous design specifications. The Alliance to Save Energy has been working with secondary mortgage institutions to achieve more uniform energy efficiency mortgage programs that could be marketed nationwide.

Many states and local governments are also experimenting with pilot programs. DOE intends to encourage and build on these changes already starting to take place.

Senator, that concludes my testimony and I would be pleased to answer questions.

[The prepared statement of Mr. Davis follows:]

Statement of J. Michael Davis
Assistant Secretary, Conservation and Renewable Energy
U.S. Department of Energy

Committee on Energy and Natural Resources
U.S. Senate
March 27, 1990

Mr. Chairman, I appreciate the opportunity to appear today to discuss the Department of Energy's position on S. 1355, the "Residential Energy Efficiency Ratings Act."

The bill has a worthy objective -- to encourage residential energy efficiency by providing consumers with more information on the energy performance of the homes they buy. However, the Department of Energy (DOE) strongly opposes S. 1355. The bill would mandate a uniform national rating system, direct up to $22 million to a single non-profit organization to carry out the work, and interfere with the relationship between DOE and its national laboratories.

Home Energy Ratings. DOE has supported the development and use of home energy rating systems since the late 1970s. We have learned from this experience, and what we have learned is germane to this legislative proposal. Rating systems offer potential benefits to home builders and home buyers, to utilities and their customers, and to the Nation.

A credible system of home energy ratings can highlight energy-efficient homes and give builders a basis for comparative claims. Home buyers, in turn, may benefit by obtaining additional information for their home purchase decisions, and a larger supply of energy-efficient homes may result.

Utilities, particularly electric utilities, are in many cases advocates and sponsors of rating systems. They benefit by being able to hold down the need for new energy supplies, thus avoiding increased rates and unhappy customers. The Nation benefits from greater energy efficiency in residential buildings and from the consequent reductions in environmental emissions.

Home energy ratings have existed for decades, dating from the Edison Electric Institute's Gold Medallion Homes developed in the 1950s. After the energy crises of the 1970s, rating systems began to proliferate. A review of these rating systems by DOE's Pacific Northwest Laboratory in 1982, updated in 1986, identified several hundred entities sponsoring home energy rating systems. However, only a few of the rating systems operating in 1982 were still in place four years later. New rating systems were taking their place, but with little change in total activity.

Energy-Efficient Mortgages. The impact of rating systems may be greatly increased if they are coupled with energy-efficient mortgage programs. Traditionally, lending institutions have required that housing payments be no more than 28 percent of monthly income. When a lending institution approves an energy-efficient mortgage, it may increase this ratio to 32 percent: The higher mortgage payment is justified by the reduced energy costs.
For example, a home might ordinarily sell for $75,000 and carry a mortgage of $70,000. The monthly mortgage and interest payment assuming 10% over 30 years would be about $615 a month. With an energy-efficient mortgage based on a home energy rating, a home builder could add a $2,000 energy efficiency

package, increasing the size of the mortgage to $72,000, but reducing the energy costs by 15 to 20 percent. The mortgage payment would increase to about $632 a month, but would be offset by lower energy bills.

As shown in this example, rating systems and energy-efficient mortgages do not necessarily increase housing affordability--mortgage costs may be traded for energy costs--but the Nation may save energy, utilities may reduce their need for new energy supplies, and home builders may build more efficient houses. The risk of the home buyer defaulting because of unexpected increases in energy costs may also be reduced. Because of these benefits, utilities may agree to share the costs of efficiency improvements, encouraging both energy savings and housing affordability.

Nonetheless, the use of energy-efficient mortgages has been far from widespread. A 1980 survey of 1,000 primary lenders indicated that 12 percent gave preferential underwriting treatment to purchasers of energy-efficient homes. A 1984 survey of 150 primary lending institutions found that 11 percent offered preferential standards for purchasers of energy-efficient homes.

More than six years ago, announcements endorsing energy-efficient mortgages were made by the principal purchasers of home mortgages in the secondary mortgage market. The Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation encouraged primary lenders to write energy-efficient mortgages and offered to purchase the mortgages. Despite these announcements, fewer than 1/2 of 1 percent of the mortgages written today are

energy-efficient mortgages.

The experience to date shows that a different approach is needed if residential energy rating systems and energy-efficient mortgages are to achieve widespread acceptance and use. What is not clear is what approach will work best. Encouraging the States and public utility commissions to go forward with a variety of incentives and rating systems may provide better answers than a single national approach.

Defects in the Bill. S. 1355 would place the primary responsibility for the development of the rating system with a "qualified residential energy efficiency rating organization." The bill defines the qualifications that must be met by this organization: It must be a non-profit organization with experience in the residential energy efficiency rating field and the capability of administering the program "on a self-sustaining basis after the expiration of the contract." There are organizations that meet these requirements; however, many utility, homebuilder, and research organizations would be excluded, as would DOE, which has a wealth of experience in home energy audits through its Conservation and Weatherization Assistance programs. The bill would direct DOE to enter into a multiyear contract with this organization, providing 18 months to develop the rating system and four years to administer the system. The authorization for this effort is $22 million. The bill also would direct the Secretary of Energy to make the services of Lawrence Berkeley Laboratory available to assist the contractor. The Department objects strenuously to the specification of a particular DOE laboratory. DOE is fully aware of the capabilities of Lawrence Berkeley

Laboratory, as well as the other national laboratories in the DOE system, and the Department is continually engaged in the allocation of lab resources to meet a wide spectrum of program demands. Legislative prescriptions such as this one are detrimental to the open, collaborative relationship DOE seeks to establish with all of its national laboratories and is an unwarranted intrusion into executive branch responsibilities.

These provisions couple what maybe an appropriate national objective with special contract arrangements that appear designed to benefit a few pre-selected organizations.

DOE's Recommendation. The Department's objective is to use the expertise and experience gained during the past 15 years to have an immediate influence on the energy efficiency of the Nation's homes, other buildings, and other end uses. Encouragement of residential energy rating systems and energy-efficient mortgage programs can move us toward this objective. As evidence of this commitment, the Department requested $1.5 million in the FY 1991 budget under the Office of Buildings and Community Systems for "Acceleration of Near-Term Conservation," including work to "Promote adoption of Uniform Home Energy Rating and Energy Efficient Mortgage Systems."

We believe that DOE leadership, exercised directly or through any public or private organization with relevant experience, would be more effective in getting the participation of all the other parties with an interest in encouraging home energy efficiency. These parties would include Federal agencies, the secondary mortgage institutions, State and local governments,

financial institutions, home builders, utilities, sponsors of rating systems, and energy conservation and environmental organizations.

The Department recommends that no new legislation be enacted at this time. DOE intends, rather, to proceed with two tasks that would meet the objectives of S. 1355 without the bill's undesirable and non-competitive provisions. These are: developing voluntary national criteria for home energy rating systems which are able to accommodate appropriate regional variations, and breaking down barriers to the use of energy-efficient mortgages, working closely with the other organizations with an interest in these goals.

Our approach would be first to seek a consensus with the affected interests on the qualifications needed for a rating system to be validated, then to recognize the rating systems that meet these consensus requirements. This approach would build on existing rating systems, although several would need to be upgraded, and thereby expand the participation and support for the program.

The time is appropriate for a vigorous effort in these areas. Utilities are giving increased attention to their demand-side programs. The National Association of Home Builders has proposed a National Energy Plan that advocates new, energy-efficient homes that meet rigorous design specifications. The Alliance to Save Energy has been working with the secondary mortgage institutions to achieve more uniform energy-efficient mortgage programs that could be marketed nationwide. Many States and local governments are also experimenting with pilot programs.

DOE intends to encourage and build on these changes already starting to take place. S. 1355 proposes a narrow approach that fails to recognize the diversity of need and capability available to the Nation to address the goal of increased home energy efficiency, and is overly prescriptive on the choice of implementing agents. Consequently, we oppose enactment of S. 1355.

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Senator BUMPERS. Mr. Secretary, let me say that, and I do not mean to be confrontational about this, but you know DOE does not have the best reputation in the world for encouraging conservation. Now here we have spent two months on the Clean Air Bill and a great deal of the time consumed on the Clean Air Bill has said, well, we have got to do these things because we have to clean up the air and we have to figure out how we are going to conserve more energy because the more we conserve, the less contribution the use of energy makes to the greenhouse effect, and the better influence it has on our trade deficit which is now largely composed of imported oil and going up every day. And I must say the testimony is confusing to me.

You seem to say on the one hand, we think the goal is laudatory as long as we do not have a national policy. Now there are some things that are important and have a national overriding concern—the education of our children. We try to assist the states all we can up here because we think there is a national overriding concern about educating our children. We feel the same way about energy conservation and an energy policy. On page 6 here, you say, as evidence of this commitment, the department requested $1.5 million for your next year budget under the Office of Buildings and Community Assistance for Acceleration of Near Term Conservation, including work to promote adoption of uniform home energy rating and energy efficient mortgage systems. If you are asking for $1.5 million to do something similar to this, why do you oppose this?

Mr. DAVIS. Well, sir, what I would say again, is that we accept the need for policy here and we know of your support. We have seen clearly through hearings we have held all across the country the need for a national energy strategy. And indeed, also the recognition that there is probably no silver bullet. Appropriate decisions get made on a regional and local basis, and we have to allow for that flexibility. So while we indeed support the objective, what we are trying to raise here is that we have difficulty with the process that is currently proposed in this bill.

And as you indicated in your opening remarks, I think the objective would be to discuss how that process can be structured.

Senator BUMPERS. You know, I have tried to draft this bill, and quite frankly, I drafted it with the view in mind that DOE would almost certainly oppose it if there were any national guidelines for energy conservation. I drafted it so it would be essentially voluntary, but I must say, having gone through those exercises of trying to accommodate what I know the general philosophy of DOE is, I am really keenly disappointed that there is not at least some enthusiasm on the part of DOE to do this beyond $1.5 million request for this particular little program you have over there.

I do not understand why, when we could save so much energy, save people so much money, improve our environment, and give people a break in these mortgages where they could do some home improvements and would know before they bought the house what really ought to be done. I cannot understand why that is not just doing the Lord's work.

Mr. DAVIS. Sir, again, I am not objecting, nor do I think the Department is objecting to the objectives of the bill. I would also indi-

cate that we have requested substantially more than $1.5 million if you look at the request we are making in fiscal year 1991 for all of our energy efficiency programs. For the first time in a very long time, our request is substantially closer to what the will of Congress has been for these programs.

We have requested and received support for substantial additional funds in the area of least cost utility planning and in the area of trying to accelerate and facilitate state and local governments in the adoption of better energy codes. Clearly, I agree with you about DOE's past track record. In the process of taking this job, I assumed that DOE certainly has the opportunity and the need to do better than it has done in the past. But I think if you look at our overall program request of Congress this year, it reflects many of the concerns that you have had for some time. And I think it is a first step effort that has been made to face these issues and to certainly move beyond just the support of long term high-risk research and much more into many activities that support the application of the technologies that are available to us.

There is a lot of money in the system, other than the $1.5 million that we have earmarked here for this specific purpose, that we think we can appropriately leverage, with state and local program funds, and funds from other federal agency programs. There are many interested parties. We think the key to moving this forward is the right coalition and the right use of that large group. And if we do that effectively, I think we can accomplish essentially what you have raised here.

Senator BUMPERS. You state you object to the authorization of $22 million for a voluntary non-profit organization, and you object to the targeting of the Lawrence Berkeley Laboratory, which in the Bill would be used, or at least they would furnish information to this non-profit organization. What is wrong with that?

If you do not want a non-profit organization to do it, and you do not want to do it, who do you recommend?

Mr. DAVIS. Well, I am not suggesting that we do not want to do it. I certainly have not said that we do not support the objective.

Senator BUMPERS. As long as we do not do anything about it, though.

Mr. DAVIS. No, sir. That is really not what I am trying to get across here.

Senator BUMPERS. Well, go ahead.

Mr. DAVIS. I believe that the National Laboratory structure in general has experience and capabilities to bring to this project. And I think DOE has——

Senator BUMPERS. Would you favor an authorization of $22 million for the Lawrence Berkeley Laboratory to design these standards?

Mr. DAVIS. No, sir. I would not. I would assert that the Department has substantial resources and there are a number of other major participants that need to be in this process, and we should try and use that larger network to accomplish what is being proposed here. That is all I am saying.

Senator BUMPERS. Mr. Secretary, do you know whether or not the Farmers Home Administration or HUD in general, has energy

standards that must be met before they will make a loan or a guaranteed loan to build a house?

Mr. DAVIS. I am aware that in some areas standards are not required before they will make loans.

Senator BUMPERS. Do you think that is good policy?

Mr. DAVIS. No, I do not.

Senator BUMPERS. What do you propose to do about it? You come over here complaining about this bill and you have not offered a single alternative except to say we asked for $1.5 million to do something similar to this.

Mr. DAVIS. Again, Senator, I will say that we at the Department have taken the time to go around this country and listen to many interested parties suggest what our national energy strategy and what our policy and what our specific actions ought to be. Many of those conflict, but they clearly point to the need to apply energy efficiency and to use energy efficiency as a cornerstone of that national strategy.

Now what we need to do is look across our entire budget in energy efficiency, which we are attempting to do by end use. We need to look at all the revenues that DOE and that the states and that other organizations, particularly utilities which are in immediate need of resolution on some of these issues, can bring to bear. And I believe that we have a more focused proposal this year than we have had in the past to apply energy efficiency technology, the most cost effective way from our overall budget.

Now, again, the objective that you are supporting here, we support as well. The issue we are trying to raise is how best to proceed toward this objective.

Senator BUMPERS. Well, Mr. Secretary, I recognize that there are dozens of these home energy rating organizations around the country. Most utility companies have their own. Some banks have their own system. Some banks will not loan money unless they get an approved chart showing that a house meets certain energy standards. But what I am trying to say is some of them are good and some of them are not, some of them are in between. But the most important part of it is that an awful lot of people are building homes, buying homes and selling homes with absolutely no thought to energy conservation and energy efficiency.

If you will look at the budget, and as I say, I have knocked myself out drafting this bill to accommodate what I know the general philosophy has been at DOE for the last 9 years; if you look at the energy conservation budget, you will see that it has gone south every year for 9 long years.

And yet, we have these overriding national concerns about energy consumption, about the environmental problems with energy consumption to say nothing of the economic problems which I mentioned a moment ago as reflected in our trade deficits. And yet it just seems to me that what you are saying is you do not like what I am proposing, and you apparently do not like what you all are doing, but you are not offering any alternative.

I do not want to belabor the point. I certainly do not want to be confrontational with you, but it is exasperating to feel as strongly as I do about the necessity for a national policy, and the Department of Energy being the one organization that is dragging their

feet. You mentioned utilities a while ago, mentioned utility regulators, and here is a resolution. You heard me just put it into the record. That the National Association of Public Utility Regulators strongly favor this approach, this bill.

Now those are the people who have to regulate the rates and who have to deal with the outcry of consumers every time there is an increase. And one way, incidently, one way to keep rates from going up is to keep from building new energy capacity. And the way you keep from building new electrical generating plants is not use so much and create the demand so that you have to build more.

I mean I just cannot see anything wrong with what we are trying to do here. But with that, let me just say I will not browbeat you any further, Mr. Secretary, and simply say that I am going to have to run downstairs for a couple of minutes. Senator Bingaman has generously agreed to chair this hearing for a few minutes while I run downstairs to introduce some of my folks to another committee.

But if you have any additional thoughts on this, I would appreciate getting them. I would hope that you would get saved sometime in the immediate future because I am going to push this bill. It needs some amendments and modifications, and I was hoping you would have some suggestions to make on the part of the Administration that would make it acceptable to them, but I have not heard it, a suggestion as to how it might be improved. You are just opposed to it.

Senator Bingaman, do you have any questions of this witness?

Senator BINGAMAN. I do not, Mr. Chairman. I would be glad to hear testimony from the second panel while you have to run with your chore.

Senator BUMPERS. I appreciate that and I will be back as soon as I can.

Mr. Secretary, thank you for being with us.

Mr. DAVIS. Thank you, Mr. Chairman.

Mr. BINGAMAN [presiding]. If the second panel would come forward. Cherry Duckett who is the Assistant Director of the Arkansas Industrial Development Commission; Benny Folsom, Administrator of Good Cents Program, Southern Electric International; Don Stafford, Home Builders; Harley Rouda, National Association of Realtors; Ron Hughes; and William Prindle. I thank you all for being here. I know that Senator Bumpers had wanted to be here, particularly to hear Ms. Duckett's testimony.

Why do we not start with Mr. Prindle and proceed that way? If you could summarize your testimony, please.

STATEMENT OF WILLIAM R. PRINDLE, SENIOR PROGRAM MANAGER, ALLIANCE TO SAVE ENERGY

Mr. PRINDLE. Thank you, Senator. My name is Bill Prindle and I am a senior program manager at The Alliance to Save Energy. The Alliance is a non-profit coalition of business, government and consumer leaders dedicated to increasing the efficiency of energy use. We have been around since 1977 when Senators Percy and Hum-

phrey organized us. We have taken the lead in a lot of issues, especially relating to residential energy efficiency.

About two years ago, we issued a paper entitled, "Making Housing More Affordable Through Energy Efficiency" in which we think we raised some of the key policy options in the relationship between energy efficiency and affordable housing. Home energy ratings were one of those policy options.

We held a conference last fall, that Senator Bumpers referred to, by the same title. We did hold a special workshop on home energy ratings at that time and that workshop has led us to develop what we consider to be the beginnings of a consensus for a national policy. So we think we have been doing our homework on this issue for some time.

I want to just say, in summarizing my testimony, that we already have energy efficiency labeling as a key part of our energy policy. Since the legislation of the 1970s, we have gotten labels on appliances, we have gotten labels on cars, but for our biggest energy tickets, which are our homes, we still do not have a consistent way to make smart choices.

There are some reasons for that. One is that you cannot lab test a house like you can a pickup truck or a refrigerator. That is, until the Solar Energy Research Institute in Colorado, came up with a way to put a mobile home inside a warehouse and wire it for 24 hours. But basically, you have to do these things one at a time. You cannot just lab test an appliance and then punch out 100,000 of them. When you sell 4 million to 5 million homes a year as we do in this country, that creates a serious issue as how are you going to get those homes rated in a cost effective and timely manner.

The good news is that during the 1980s, we and many others were involved in developing the tools to get this kind of rating done. Energy rated homes, folks like that, working away at the state and local level. People at the national labs, DOE runs, states like Colorado and others, utilities and home builders, have each created various approaches to rating homes. And I think we now have the physical tools that we need to do energy efficiency ratings. What we need is a coherent policy so that those tools can be properly applied to the home selling and buying process.

There are really two ways to look at home energy ratings. One is from an energy efficiency point of view. We need to save energy for various reasons, so let us label houses. If we take that, what I consider to be a narrow approach, we are going to run into problems, I predict. Just rating homes for the sake of rating homes is going to be expensive, it is going to be hard to enforce. The Danish have tried this and have had serious enforcement problems. It is going to be unpopular with people who have to deal with the process of buying and selling 4 million to 5 million homes a year.

There has to be a broader reason and a broader process for doing energy ratings. And that is where the housing affordability issue comes in here. And we have been working from that side of the issue on this for some time.

You have got to make energy ratings part of the total process of buying and selling homes. And that is what we are proposing in the proposal I will discuss later. That is where the benefits come out for the real estate agent, for the lender, for the appraiser,

homebuilder, as well as for the consumer. And that is how we will get those people motivated to do these things.

To get energy ratings into the basic housing affordability process, we have got to link them to mortgage financing. Senator Bumpers mentioned this earlier. I cannot belabor that enough. The mortgage lender is now the chief arbiter of what is affordable to the consumer, at least for the 60 percent or so of the housing stock that is owner occupied and mortgage financed.

We found this out the hard way. Back in 1982, we were involved in developing one of the first home energy rating systems up in Massachusetts. We had support from the Department of Energy, a lot of people were involved, everybody thought it was a fine rating system including Representative Ottinger, who had a statement in the record praising it at that time. We got the thing all ready and put it out there, and then found that it was not all that popular to use, even in those days of high energy prices and oil shocks and everything else.

What we learned was that that rating system was not properly linked to the overall mortgage, buying and selling of homes, process. So, partly as a result of that, we went to work on the mortgage issue. We looked back and we saw that Jimmy Carter had issued an executive order in 1979 that said, federal financing programs have to come up with incentives for conserving energy. And low and behold, Fannie Mae and Freddie Mac and the FHA Program, the Veterans Affairs Program all went out and came up with some new options that would encourage buyers to buy more efficient homes and would also allow the fix up of older, less efficient homes.

And yet the field experience has been a little rocky with these four programs. They are each a little different. Some of them suffer from a little bureaucratic red tape and none of them is what you would call user friendly.

Back at our conference in October, we had John Teutsch, who is a past president of the Mortgage Bankers Association, address our opening policy forum. And having been one of the original founders, I believe, of energy rated homes, he has been following this issue for some time, and he pointed out that his best guess, and we have no accurate records for this, about one in 37,000 home sales had taken advantage of these options. That is probably optimistic.

Senator BINGAMAN. And these options are not incentives?

Mr. PRINDLE. They are incentives, in theory. They would allow a lender to use a higher ratio of payment to income in qualifying a buyer if a home is energy efficient. They would, in theory, in some cases allow you to add a few thousand dollars to the mortgage to pay for some energy improvements. But the way they are structured now, they are more work than reward. They make everybody a little nervous. They create too much work for the folks who have to deal with closing the loan in between sales and settlement.

We have been working on this issue for a few years now. Last summer we had a workshop at Fannie Mae where we got Fannie Mae and Freddie Mac and FHA and VA and a lot of other folks together and said, how can we come up with a consistent energy efficient mortgage policy that all the lending groups can agree on and that is actually user friendly.

Well, we came up with some ideas which are contained in a proposal that we are issuing now, and we think that this has a lot of promise. We think this is the role that energy ratings can play as supportive of an energy efficient mortgage effort. We think that rating systems and energy efficient mortgages are two parts of a five part initiative that we announced last year at our conference which is really an energy efficient housing policy.

We have had some success last fall. By amendment, the National Affordable Housing Act that Senators Cranston and D'Amato was altered to include a provision calling for a uniform energy efficient mortgage program, and on that basis we are very glad that the Energy Committee is taking up the rating systems issue because we think that is another key piece of this puzzle. And we would like to see a Congressional mandate for home energy ratings just as we would like to see a Congressional mandate for energy efficient mortgages.

We hope that the Committee will consider and study the two proposals that I have included with my testimony, kind of in parallel here, one is on home energy ratings and one is on energy efficient mortgages. We think they go together. They are based on workshops we have done, on consultations we have had with people throughout the energy and shelter industries, and we think they are the closest thing that we have so far to a consensus on these issues.

If you look at the proposals we have put forth, you do see a few differences with what is written down in Senate Bill 1355. I do not think these differences are at all irreconcilable or all that major, and I think that our suggestions can make the Bill stronger.

There are really four points that we wanted to raise with specific provisions of the Bill. The first has to do with the Bill's call for a uniform energy efficiency rating system. While it may be more semantics than anything else, we would rather see the wording refer to guidelines or standards for local rating systems, rather than a single, uniform rating system. I think the term uniform system makes a lot of people nervous, especially those who have spent years developing rating systems which they now have in the field which are being applied to hundreds or thousands of houses. I think those folks would tend to oppose the Bill if it gave them the idea that their hard won gains were going to be reversed.

The second point that we would like to bring up has to do with giving the Department of Energy a little more flexibility in how they get this done. We think that the Bill is a little overly narrow in specifying exactly what kind of contractual vehicle DOE has to use and what kind of an organization it has to contract with to get this done. We think that it is appropriate that DOE be charged with this responsibility, because, in fact, they are already moving somewhat on this issue and we would like to see a Congressional mandate to encourage that. But we also think that it is appropriate to give the Secretary of Energy his management prerogative as to how these guidelines are developed.

There is another provision in the Bill that calls for the certification and licensing of local rating organizations. Again, that may just be a semantic issue, but it is potentially, I think, alarming to folks who are now working at the local level who would feel that

they now have to go through a bunch of red tape to get their organization licensed. We would like to see technical certification and quality control of the tools that are used, the computer programs and so on, but I do not know that it is necessary to actually license a local rating organization from a national level. We think that technical certification of the tools themselves would be enough for that.

And the fourth point is on the appropriations issue. We certainly would like to see money devoted to this issue, but it is our view and our estimate from having worked with some of the groups that are involved with this and so on, that we do not need $22 million just to develop the guidelines, we think we could do the job in that arena for maybe a quarter of that amount. We would like to see the bulk of that money go directly to state and local organizations that are going to be putting these things on the street. That is really where the rubber meets the road, and that is really the biggest obstacle. It costs half a million dollars, in some cases, to get one of these programs up and running, and we would like to see the money go to where the action really is going to be, rather than having it spent too much on a central secretariat kind of a junction.

Those are, in quick summary, the points we wanted to raise and we would be happy to answer any questions and to continue working with the committee as this goes forward.

[The prepared statement of Mr. Prindle follows:]

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TESTIMONY OF WILLIAM R. PRINDLE
SENIOR PROGRAM MANAGER
ALLIANCE TO SAVE ENERGY
BEFORE THE SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
MARCH 27, 1990

I am very pleased to testify before the Committee on home energy ratings as proposed in Senate Bill 1355. The Alliance to Save Energy is a nonprofit coalition of business, government, and consumer leaders dedicated to increasing the efficiency of energy use.

SUMMARY

The Alliance supports the Committee's interest in home energy ratings. However, the Alliance's proposal for a national home energy ratings policy differs from parts of this bill. We believe that federal guidelines for local rating systems are more appropriate than a uniform rating system, that the Department of Energy should be given more flexibility in developing these guidelines, and that the appropriations section of the bill should direct the majority of funds to assisting local energy rating organizations. These points are elaborated later in my testimony.

HOME ENERGY RATINGS CAN ENHANCE HOUSING AFFORDABILITY

In the 1970s Congress established energy efficiency ratings for automobiles and appliances. These are now fundamental parts of our energy policy. Yet as consumers we still have no way to evaluate the efficiency of our largest source of energy bills--our homes. Energy bills are the largest cost of housing after the mortgage or rent; they average more than 20% of total housing costs. For poor people, energy costs eat up more than a third of the housing budget.

Fortunately, energy efficiency has been proven as a way to **reduce** the total cost of housing. An Alliance policy paper entitled **Making Housing More Affordable Through**

Energy Efficiency showed that we can save an average of 25% of home energy bills in our existing housing stock, and we can do it cost-effectively with today's technologies. Achieving this goal would directly help about two million families, mostly low-income, by bringing their total housing costs below the federal threshold for affordability. A copy of our paper is enclosed with this testimony.

Efficiency can also help increase homeownership. A 1986 study by the Harvard Joint Center for Housing Studies showed that a rational housing energy policy coupling home energy ratings with mortgage incentives could enable as many as 250,000 more households to buy homes.

There are some visionary shelter industry groups who already use energy efficiency as part of their affordable housing efforts. Consider these examples:

- The homes built by BBH Enterprises in Dallas cost $260 more than typical homes due to their energy features. This adds about $2.40 to the mortgage payment; but since these homes save an average of $35 on energy bills, the buyer pays $32.60 less per month in total costs. If lenders recognized this, people could qualify to buy these homes with $1,500 less income.

- The Bigelow Group in the Chicago area guarantees its homes' heating bills to be less than $200 per year. This saves the buyer an average of $90 per month; with an additional mortgage payment of $17.56, the net benefit to the buyer is $72.44 a month. If the home finance system used this knowledge, the buyer would only need to earn $30,000 to afford the home as compared with $33,000 under present practices.

To realize this kind of benefit, we need new ways to gauge and control home energy costs, in our housing policies as well as our energy policies. Home energy ratings can be important tools for this effort. The Alliance has recognized the importance of home energy rating systems for a decade; in the early 1980s we were part of a Department of Energy project to develop and test a home energy rating system for the state of Massachusetts. I have enclosed a Congressional Record statement on this effort.

ENERGY RATINGS MUST BE LINKED TO MORTGAGE INCENTIVES

The Massachusetts rating system never achieved the breadth of use we had sought. In the intervening years we have come to learn why it never took off. The overriding reason was that rating systems are just one part of a complex process that defines housing affordability. Rating systems won't work in isolation. They produce useful information, but don't enable consumers to use it.

We learned that the crux of housing affordability is not in energy ratings, but in the mortgage underwriting process. Since 60% of our housing is owner-occupied and the vast majority of this is mortgage-financed, mortgage bankers are the main arbiters of what is affordable to the consumer. (Energy ratings are still important for rental housing, but linking them to adequate financial incentives is a tough problem.) In this perspective, home energy ratings must become part of the real estate sales and financing process. Moreover, since energy ratings are intended to feed accurate information into the marketplace (i.e. to buyers), the time to do the rating is at the time of sale.

Because mortgage financing so dominates the affordability issue, we have been active in promoting mortgage finance policies that include energy in the affordability equation. A 1979 Presidential executive order (#12-185, December 17, 1979) called on the major secondary mortgage institutions--Fannie Mae, Freddie Mac, the Federal Housing Administration, and the Veterans Administration--to create incentives for saving energy in homes financed by loans they purchase, insure or guarantee. We refer to these incentives collectively as Energy Efficient Mortgages (EEMs).

The Alliance has helped promote EEMs through demonstration programs, education, and assistance to local efforts. In a few areas, notably Vermont and California, local sponsors have through enormous effort made these mortgage incentives work on a small scale. Yet the vast majority of mortgage originations in this country ignore the role energy plays in the cost of housing.

WE NEED A UNIFORM ENERGY EFFICIENT MORTGAGE POLICY

There are two main reasons for this failure in the home finance system. One is the lack of a simple, consistent energy efficient mortgage program. Each of the four mortgage institutions has its own program, each somewhat different from the others. Most of them are cumbersome to use; they don't fit in the conventional home sale and mortgage application process. Lenders and real estate agents often see them as burdensome and risky, despite their potential benefits. And since there is no single system, there is no consistent way to educate consumers or professionals about EEMs. Thus most buyers, real estate people and lenders don't know about it.

The other reason energy doesn't enter the mortgage process is the lack of credible, widely available tools for gauging the efficiency of individual homes. Lenders, real estate agents, and appraisers don't feel comfortable with the complex technical aspects of rating home energy efficiency. They need other professionals to perform energy ratings, just as they now rely on home inspectors and termite contractors. This is where a national policy and program for home energy ratings can help the shelter industry in its campaign to make housing more affordable.

The Alliance has been developing both home energy ratings and energy efficient mortgages as part of a new national housing policy. They are among the policy options in our enclosed policy paper. They were among the five policy initiatives we put forth at our 1989 conference on energy and housing policy that brought together Administration and Congressional leaders as well as shelter and energy industry representatives and state and local governments. I have enclosed the press release and program from the conference with my testimony.

Since the conference our initiatives have been well received. We have succeeded in getting our energy efficient mortgage initiative in Senator Cranston's National Affordable Housing Act (S.566) by amendment. Senate Bill 1355 does an important service by raising the issue of home energy ratings in this important year for housing policy legislation. Yet while we applaud the intent of the bill, we differ with some of its specific provisions.

RECOMMENDATIONS FOR S. 1355

Enclosed with this testimony are the Alliance's recently-issued proposals for new national policies on energy efficient mortgages and home energy ratings. These are based on our long experience in these issues, plus the results of workshops we held in 1989 seeking the consensus of a full spectrum of shelter and energy industry groups, government agencies, and nonprofits. We believe these proposals represent a broad consensus of stakeholders, and thereby deserve serious consideration by the Committee.

By comparing the Alliance's proposal on home energy ratings with S. 1355, the following differences appear:

- **Establish guidelines rather than a specific rating system.** The Alliance proposal calls for the development of guidelines for rating systems, rather than a uniform rating system as stipulated in S. 1355. This is an important distinction. Many different organizations--home builders, utilities, nonprofits, and state and local governments--have already developed energy rating systems. The different goals and operating practices of these groups must be respected; they should be allowed to operate independent systems, within minimum federal guidelines. The current wording of S. 1355 appears to threaten the hard-won gains of those who have labored to put rating systems in the market. I predict that many of them will oppose this bill if it contains such restrictive wording.

- **Allow the Department of Energy flexibility in creating guidelines.** Our proposal calls for the Department of Energy to work through nonprofits to develop the guidelines. However, we think the wording of S. 1355

unduly restricts the Secretary of Energy in how the development process is conducted. Mandating a fixed procurement process, and specifying one national laboratory for technical support, is an undue intrusion into the management of the Department. S. 1355 also defines a "qualified residential energy efficiency rating organization" in very narrow terms. This is too exclusive a definition; it automatically excludes major nonprofit organizations of the energy and shelter industries. We believe that all groups with a stake in home energy ratings should be given an equal chance to participate in its development. DOE is already planning a new initiative in the energy ratings and mortgage incentive areas. These efforts should be built upon, not replaced with an inflexible process outside the Department's control.

- **Certify rating methods, but don't license rating organizations.** The administrative provisions of S. 1355 call for the licensing of local rating organizations. We believe this provision is too heavy-handed. We envision a technical certification requirement specifically for energy rating tools. The Solar Energy Research Institute has already begun to develop a standard for this function. But this would only certify the tool, not license the organization. The latter requirement could create a cumbersome bureaucracy which could slow rather than speed the development of energy rating systems.

- **Authorize startup funding for local rating systems.** We believe the funding authorization for S. 1355 should place the majority of these funds in the hands of local ratings organizations that need startup support. Our estimate is that the basic tasks needed to develop guidelines and provide technical assistance will not cost more than $5 million over four years. The rest should be used as "seed money" for local efforts through appropriate channels.

We urge you to study our proposals for home energy ratings and energy efficient mortgages. We believe they reflect a fair representation of the interests of the shelter and energy industries and other stakeholders. I am confident that through cooperation we can agree on the best approach to home energy ratings as part of a larger housing and energy policy picture. We are most willing to work with the Committee toward this end.

The
ALLIANCE
To Save Energy

MAKING HOUSING MORE AFFORDABLE THROUGH ENERGY EFFICIENCY

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June 21, 1988

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MAKING HOUSING MORE AFFORDABLE THROUGH ENERGY EFFICIENCY

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MAKING HOUSING MORE AFFORDABLE THROUGH ENERGY EFFICIENCY

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The Alliance to Save Energy

EXECUTIVE SUMMARY

Energy plays a key role in the overall affordability of housing. Energy is a major cost for American households: they spend $100 billion on energy, or more than $1,100 per household. Moreover, after rent or mortgage payments, energy is the largest cost of home occupancy. While typical middle-income households spend about one-fifth of housing costs on energy, many low-income families spend more than one-third. Major changes in energy expenses can thus increase or decrease housing affordability significantly.

Energy efficiency has helped stem the decline in housing affordability. Federal studies show that the number of families spending excessive portions of their income for housing has grown by two-thirds since the 1970s. Renters and low-income families have been the hardest hit: a third of renters and almost half of low-income families bear excessive housing cost burdens. Energy conservation efforts have reduced the severity of this trend: they helped lower energy use per household 24 percent between 1978 and 1984. Without this reduction, housing costs would have gone up another $31 billion, worsening the affordability problem.

Further increases in energy efficiency can substantially improve housing affordability. Cost-effective energy efficiency investments in both new and existing homes can reduce energy use by upwards of 25 percent. Reduced energy costs would improve housing affordability both by reducing the housing costs of families whose units are improved, and by making improved units affordable to more families.

Two million households can realize affordable housing through achievable energy savings. A 25 percent reduction in energy costs would reduce the nation's housing costs by $25 billion, about 4 percent of total housing costs. This would benefit all types of households by freeing up income for other purposes. Energy savings of 25 percent would also bring housing costs within the affordable range for almost two million households. More than a million of these households, moreover, are low-income: this group stands to gain the most from energy efficiency.

Market barriers impede greater energy efficiency in housing. Builders strive to minimize the first cost of housing: the market does not reward them for adding energy features that would reduce owners' long-run operating costs. Builders,

PREFACE

The Alliance to Save Energy is a nonprofit coalition of business, government, and consumer leaders dedicated to increasing the efficiency of energy use. To achieve this goal, the Alliance conducts research, pilot projects, educational programs, and policy advocacy. General financial support for the Alliance is provided by corporations, foundations, individuals, and governments.

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lenders, and consumers lack clear and reliable information on the techniques and benefits of cost-effective energy efficiency practices. Favorable financing arrangements for efficiency improvements are difficult to obtain. In rental housing, divergence of owners' and tenants' interests impedes energy improvements; and in subsidized housing, public funding practices discourage energy savings by owners and tenants. These and other obstacles must be addressed if the housing affordability benefits of energy efficiency are to be realized.

Public policy initiatives are needed to increase affordability through energy efficiency. There are several policy options for federal, state, and local governments seeking to increase housing energy efficiency and affordability. Some of the major options that should be considered in the growing debate on national housing policy are:

Federal Initiatives

- Restore the federal responsibility for setting energy standards for public and subsidized housing.
- Require states to establish home energy rating systems within basic federal guidelines.
- Add energy efficiency investment incentives to housing finance programs.
- Incorporate energy efficiency provisions in rental assistance programs.
- Upgrade energy efficiency provisions in federal and federally-chartered mortgage programs (Fannie Mae, Freddie Mac, FHA, and VA).
- Invest first in energy efficiency in the effort to rebuild public housing.
- Create tax incentives for housing energy efficiency to stimulate more efficient construction and renovation practices, especially in low-income housing.
- Continue to collect housing energy data to provide the information needed for future policy and planning decisions.
- Require individual metering in federally-assisted rental housing, while requiring such buildings to meet high energy standards.
- Change federal laws limiting utilities' provision of energy services.

State and Local Initiatives

- Improve energy standards by adopting the latest model energy code or developing new codes.

- Bring existing buildings up to energy standards by requiring buildings to meet the standards at time of sale or refinancing.

- Foster the development of energy service companies for housing by helping them with startup costs, financing, and other areas.

- Change local rent control laws to encourage energy efficiency.

- Encourage utilities to implement cost-effective efficiency improvements for residential customers.

- Undertake least-cost planning initiatives that assess energy efficiency and new energy supplies on an equal footing.

- Enlist utilities to administer home energy rating systems.

- Adopt tenant metering policies for rental housing, combined with high energy efficiency standards.

MAKING HOUSING MORE AFFORDABLE THROUGH ENERGY EFFICIENCY

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The Alliance to Save Energy

I. Introduction

There are two perspectives from which to view energy in housing: one is the national energy perspective, which is concerned with the impact of housing energy usage on total energy consumption; the second is the housing affordability perspective, which views energy in terms of its financial impact on households. In this paper, we take the housing affordability perspective: while we review the overall situation of energy use, costs, and conservation potential in housing, our objective is to assess the effect that energy efficiency can have on housing affordability.

What Is Housing Affordability?

Housing affordability is a phrase with many connotations. Perhaps the most basic conception of affordability relates to the fact that the goal of home ownership -- traditionally part of the "American dream" -- is now beyond the reach of many families. After fifty years of growth, the overall homeownership rate has dropped in the 1980s, especially for younger households. The problem is worse for newly-built homes: since 1970, the proportion of families who can afford to buy the median-priced new home has fallen from 61 percent to 19 percent [1].

Defining exactly what constitutes affordability, however, requires some objective, albeit arbitrary, measures. One measure of affordability is the percentage of income a household spends on basic housing costs, including energy. According to guidelines of the U.S. Department of Housing and Urban Development (HUD), households that rent are "cost-burdened" if they spend more than 30 percent of income on basic housing costs; for owners, the cost-burdened threshold is 40 percent. Following the federal guidelines, we assume housing that costs more than 30 percent of income (for renters) or 40 percent (for owners) is unaffordable.

As will be shown below, by this definition there are today a substantial number of Americans living in households they cannot "afford." Some of these persons, to be sure, make ends meet by scrimping on discretionary expenditures. But for others, the high cost of housing, including energy, means that they do not have enough money remaining for other necessities, such as food, clothing, and medical care.

Major Housing Categories

There are many ways to distinguish among basic housing categories. The most important distinctions are between single-family and multifamily buildings, and between owning and renting households. Two-thirds of the nation's households are in single-family homes, 27 percent are in multifamily buildings, and the rest (6 percent) live in mobile homes. Eighty-three percent of single-family homes are owned; 86 percent of multifamily units are rented [2]. Because there are such heavy overlaps between single-family buildings and owner households, and between multifamily units and renters, we

have merged these categories for the purposes of this analysis. Thus, in general we use the terms "single-family" and "homeowner" interchangeably; the same is true for the terms "multifamily" and "renter."

Another important housing category comprises low-income households. The meaning of "low income" is ambiguous: different public agencies and data sources use varying definitions. By HUD's definition, about 23 million households were "very low income" in 1983, and another 15 million were "low income" [3]. While other sources use different classification methods, most arrive at similar estimates of the size of these groups.

Finally, another key category is "subsidized" housing: housing that is owned or financially assisted by public agencies. About 4.2 million units (mostly rental) are subsidized by federal programs. Subsidized housing accounts for about one-third of low-income rental units. Because so many low-income families rely on subsidized housing, and because public policies can potentially affect subsidized housing much more directly than private housing, portions of our analysis examine subsidized housing separately from other categories.

Data Sources

This paper uses the latest and most authoritative sources of information available, including the U.S. Department of Energy's *Residential Energy Consumption Survey* (RECS) and the Census Bureau/Department of Housing and Urban Development's *Annual Housing Survey* (AHS). The latest versions available use data from 1983 (AHS) and 1984-85 (RECS). Other studies and references vary from 1982 to 1987, including the National Housing Task Force's report *A Decent Place to Live* [4] and the Harvard Joint Center for Housing Studies' *State of the Nation's Housing* [5]. Because energy prices, housing costs, and other conditions have changed since many of our sources were published, some of the figures cited have undoubtedly changed. We do not believe that any of these changes, however, would alter our conclusions.

II. Energy Efficiency Plays a Key Role in Housing Affordability

Housing Affordability Has Declined Since the 1970s

By several measures, housing affordability has declined in recent years. Fewer young and low-income households can afford to buy homes, and the availability of modest-rent apartments is dwindling in relation to the demand for them. By our working definition of affordable housing, households paying excessive amounts have increased dramatically. A federal study shows that from 1975 to 1983, the number of cost-burdened households increased by almost two-thirds [6].

About one-third of renters and almost one-half of low-income households are cost-burdened, versus only 8 percent for homeowners (Table 1). This implies that renters and low-income households would benefit most from housing cost reduction through energy savings.

Table 1. Cost-Burdened Households. Renters and low-income households bear the highest housing cost burdens.

Household Category	Number of Cost-Burdened Households (millions)	Percent of Category with Cost Burdens	Percent of All Burdened Households
Owners	4.6	8%	32%
Renters	9.8	33%	68%
Very Low Income	10.4	45%	72%

Note: Columns do not sum; categories overlap. Based on 1983 data.

Source: Irby, Iredia. "Meeting the Housing Goals?," U. S. Dept. of Housing and Urban Development, 1986.

Energy Costs Affect Housing Affordability

Energy is a major cost for American households. In 1984-85, the nation's 86 million households spent $97 billion on energy, or $1,123 per household [7]. However, energy costs are a much more significant burden for lower-income households, which pay three or four times as much for energy per dollar of income than average households (Table 2).

For all households, energy costs are usually the largest housing expense after rent or mortgage payments. About one-fifth of the typical middle-income household's housing costs are for energy; for lower-income households, the figure is more than one-third (Table 2). Some very-low income households spend a staggering amount on energy: for example, households earning less than $5,000 and using oil heat spent 33 percent of income on energy in 1984-85 [8]. Clearly, low-income households stand to gain the most in affordability from reductions in energy costs.

Table 2. Energy Costs as Percentages of Income and Housing Costs. Low-income households pay higher fractions of both income and housing costs for energy than middle-income households.

Income Category	Energy Costs As % of Income	Energy Costs As % of Housing Costs
Middle Income	5%	20%
Low Income*	19%	37%

*Below poverty line.

Sources: Alliance to Save Energy analysis; U.S. DOE, *Residential Energy Consumption Survey*, 1984-85; U.S. HUD, *Annual Housing Survey*, 1983.

III. Energy Efficiency Improvements Can Significantly Increase Housing Affordability

Housing Energy Efficiency Has Improved Since the 1970s

From 1978 to 1984, the energy use of the average household dropped by one-quarter [9]. This change is attributable to several factors: investments in efficiency measures (e.g., insulation and weatherstripping); behavioral changes (e.g., lower thermostats); and demographic shifts (e.g., migration to the Sun Belt). There was a marked disparity in savings, however, between lower- and upper-income households. Households earning more than $30,000 saved an average of 32 percent, while those earning less than $10,000 saved about 21 percent [10]. These numbers indicate that low-income households not only bear the heaviest energy cost burdens, they also have gained the least to date from energy conservation.

Single-Family Homes. In single-family homes, energy efficiency features are more prevalent in owned homes than in rented homes. Similarly, more energy efficiency features are found in higher-income households than in lower-income households (Table 3).

Table 3. Percentage of Single-Family Homes With Energy Efficiency Features. Owned homes have more energy efficiency features than rented homes. Higher-income households have more energy efficiency features than low-income households.

	Ceiling Insulation	Weather-stripping	Wall Insulation	Storm Windows
Ownership				
Rented	45%	45%	21%	26%
Owned	85%	74%	60%	53%
Income				
Under $5,000	51%	41%	28%	31%
$5,000-19,999	74%	62%	45%	43%
$20,000-34,999	83%	76%	60%	55%
$35,000 or more	88%	81%	66%	55%

Source: DOE/EIA, *Residential Energy Consumption Survey: Housing Characteristics*, 1984.

Multifamily Buildings. Estimates indicate that only 3-6 percent of multifamily buildings have received significant energy improvements, though the figure is higher (10-20 percent) for large buildings with professional management [11]. The low rate of energy retrofit may help explain why multifamily households use 40 percent more energy per square foot than single-family households [12].

Further Energy Efficiency Improvements Are Achievable

Although energy use per household has improved significantly since the 1970s, further improvements in energy efficiency are possible. In this section we examine the prospects for energy retrofits of existing buildings and construction of more efficient new buildings. The estimates presented below refer only to measures deemed cost-effective; that is, over the life of the measure they yield benefits greater than costs (after adjusting for the time value of money).

Virtually every study of residential energy efficiency has concluded that the potential for further savings is substantial. Quantitative estimates of possible savings, however, cover a wide range (attributable, in some cases, to use of differing underlying assumptions about energy prices, technical performance, discount rates, etc.). Additionally, studies of building performance in the field show that actual savings often fall short of theoretical estimates, and can vary widely from building to building. In light of the wide band of uncertainty surrounding such numbers, we summarize below the range of authoritative estimates. We also indicate for each major housing category a "consensus estimate" that reflects what we believe to be realistically attainable. These consensus estimates assume no specific public initiatives to increase energy efficiency investments, and no dramatic changes in energy prices. Either public

efforts to increase building energy efficiency, or market forces resulting from higher prices, could raise retrofit savings potentials.

Existing Buildings. Since the majority of residential buildings that will be in use for the foreseeable future are already built, the greatest potential for energy savings lies in retrofits of existing buildings. The Congressional Office of Technology Assessment (OTA) projected that between 1982 and 2000, 51 percent of urban single-family energy use could be eliminated through economically-justified retrofit investments [13]. A more recent estimate of single-family retrofit potential by Oak Ridge National Laboratory projected possible savings of 30 percent [14]. Existing retrofit programs, however, generally achieve savings well below either of these figures. For purposes of this analysis, we will adopt a conservative value of 25 percent as a consensus estimate of potential savings in single-family homes.

Because multifamily buildings vary in size, design, and energy equipment to a greater extent than single-family buildings, it is harder to make detailed projections of retrofit potential. Published estimates of savings potential range from 12 percent to 42 percent of current energy use. Both potential and likely savings appear to be lower than those for single-family buildings. We will use a consensus estimate of 20 percent in this analysis.

The energy retrofit potential of subsidized (i.e., publicly owned and assisted) housing is important to assess because it serves those most vulnerable to affordability problems. Because subsidized housing has generally received fewer energy improvements than private housing, the retrofit potential is high. A study for HUD found potential energy savings of 53 percent in a sample of public housing projects [15]. Furthermore, because it is publicly regulated, subsidized housing is potentially easier to retrofit through public initiatives. We will assume for this analysis that savings of 30 percent can be achieved in subsidized housing.

Table 4. Potential Energy Savings From Cost-Effective Retrofits, by Housing Type. All major types of housing show significant retrofit savings potential.

Range of Estimates	Single-Family	Multifamily	Subsidized
High	51%	42%	53%
Low	21%	12%	12%
Consensus	25%	20%	30%

Sources: Alliance to Save Energy analysis.

New Construction. The most dramatic energy savings are obtainable through new construction. The most energy-efficient homes built since the 1970s use only a small fraction of the heating and cooling energy of more typical housing designs. A survey of actual energy use in such "low-energy" homes showed that they used about 75 percent less energy for heating than a more typical new home [16].

The "average" new home has also become more energy-efficient as builders have incorporated better insulation, advanced glazing, infiltration control, and more efficient heating and cooling equipment. A survey of thousands of homebuilders shows that insulation levels and use of double and triple glazing have increased substantially in recent years [17]. Builders also report wider use of measures to reduce air leakage [18]. It is estimated that builder-installed heating and cooling systems are on average 20-30 percent more efficient than their 1970s counterparts [19]. While it is impossible to estimate precisely the average improvement in new single-family homes, a consensus estimate is that the typical new home uses at least 25 percent less energy than the average existing home.

The range for potential savings in new homes is thus quite large -- about 25 percent to 75 percent. For this analysis, we will use a conservative consensus estimate of 30 percent less energy use in new single-family homes.

There has been much less research on energy efficiency in new multifamily buildings than on single-family homes, and little documentation on the performance of new energy-efficient designs. Research done in the 1970s as part of the federal Building Energy Performance Standards (BEPS) program indicated that multifamily buildings could be built to use about 30 percent less energy [20]. A Massachusetts multifamily housing program produced low-rise units that were projected (but not measured) to use 60 percent less energy than conventional designs [21].

Rehabilitation is a significant factor in the multifamily housing industry. In 1983, more was spent on rehabilitation of multifamily buildings than on construction [22]. "Rehab" is a key issue in multifamily energy efficiency, because it is the time at which many major energy measures become technically and financially feasible. Experience has shown that rehab-related energy investments can achieve substantially greater results than retrofit measures. A recent HUD-funded project found energy reduction opportunities of 40-50 percent through rehab in Austin, Tex. and Boston, Mass. [23]. A 1985 project in St. Louis that used an ambitious superinsulation approach found savings opportunities upwards of 70 percent in a number of multifamily rehabilitation projects [24].

We will assume the lower bound of new and rehabbed multifamily buildings' energy savings potential to be 25 percent, based on typical homebuilding industry practices. The upper bound appears to be in the 70 percent range. The consensus estimate we will use for this analysis is 30 percent.

Table 5. Potential Energy Savings in New Housing, by Housing Type. New buildings can be substantially more efficient than those built to current standard practices.

Range of Estimates	Single-Family	Multifamily
High	75%	70%
Low	25%	25%
Consensus	30%	30%

Sources: Alliance to Save Energy analysis.

Energy Savings Can Make the Affordability Difference for Many Households

The Record to Date. The reduction in household energy use from the 1970s to the 1980s has helped stem the decline in housing affordability. Had consumption levels remained the same, we estimate that households would now be spending spent another $31 billion annually on energy costs. Total housing costs for both homeowners and renters would have increased by about 5 percent. The impact of such an increase, however, would have been different for homeowners and renters. The typical homeowner's housing costs would have remained below the federal cost burden threshold; but the typical renter's costs would have been pushed over the rental cost burden threshold of 30 percent. In this context, energy conservation has helped keep housing affordable for many households, especially renters.

How Future Efficiency Gains Would Improve Affordability. We know from the above discussion that energy savings potentials from retrofit, new construction, and rehabilitation are in the 20-30 percent range. Taking 25 percent as an overall estimate, what would be the effect of such a reduction in energy costs?

We estimate that an across-the-board reduction in energy use of 25 percent would:

- Increase the welfare of all consumers, freeing up about $25 billion of household income for investment or spending in other areas.

- Reduce the housing cost burden for those persons, predominantly renters and low-income households, whose housing costs are excessive by federal standards.

- Bring total housing costs below the cost-burden threshold for almost two million households, literally making the difference between affordable and unaffordable housing. For example, a household spending 33 percent of income on rent-plus-energy would see its total housing costs drop to 29 percent of income, below the federal 30-percent-of-income threshold. Of the households in this category, more than a million are low-income.

Table 6 summarizes these findings.

Table 6. Effects of 25 Percent Energy Cost Reduction on Housing Affordability, by Type of Household. Almost two million households would see their housing made affordable through a 25 percent reduction in energy costs.

Household Type	Dollars Saved	Reduction in Housing Costs	Housing Units Made Affordable*
Owners	$17 billion	4%	387,000
Renters	$8 billion	4%	1,425,000
Low-Income	$7 billion	8%	1,182,000
All Households	$25 billion	4%	1,812,000

*Number of households whose total housing costs would drop below affordability thresholds as a result of 25 percent energy savings.

Note: Columns do not add; categories overlap.

Sources: Alliance to Save Energy analysis; U.S. DOE, *Residential Energy Consumption Survey*, 1984-85; U.S. HUD, *Annual Housing Survey*, 1983.

IV. Market Barriers Impede Greater Energy Efficiency in Housing

Housing energy efficiency levels would undoubtedly be higher today were it not for the existence of a variety of "market barriers" that inhibit the full range of cost-effective conservation opportunities from being realized. These barriers are of many types: financial, informational, institutional, and regulatory, to name a few. The subsections that follow aim to list and explain the principal market barriers.

Barriers to Efficiency in Single-Family Homes

New Single-Family Homes. While new homes are more energy-efficient that older models, their energy features usually fall short of those that could be economically justified. Reasons for this shortfall include the following:

-- *Builders are not motivated to maximize energy efficiency.* Most homes are built speculatively: the builder does not know the buyer in advance. Since builders must bear the initial cost of energy measures, but do not receive the benefits of lower energy costs, they are reluctant to add energy features beyond code requirements. This is a form of the "first cost" problem: it is in the builder's interest to hold down the construction cost, or "first cost," of a house in order to keep the sales price low, even though a greater investment in energy efficiency could reduce the total costs (purchase cost plus long-run operating costs) to the owner.

-- *Builders and buyers lack reliable information on energy efficiency techniques*. There is still a gap between what is known by energy researchers and practitioners in terms of economically attractive energy options, and what is generally known and understood by the homebuying public and the building industry. Although energy efficiency ranks high on surveys of homebuyers' concerns, consumers are uncertain of what features to look for, and typically lack the knowledge needed to assess the efficiency of a new home.

-- *Lenders rarely consider energy costs in mortgage decisions*. Because energy-efficient homes have lower monthly operating costs, buyers have more money available for other costs of ownership (mortgage, taxes, insurance). In recognition of this fact, some lenders now use less stringent qualifying criteria (mortgage-to-income and debt-to-income ratios) when evaluating mortgage applications for energy-efficient homes: the effect is to make energy-efficient homes affordable to more buyers. The secondary mortgage market, led by Fannie Mae and Freddie Mac, has encouraged this development by agreeing to purchase so-called "energy efficient mortgages" from participating lenders. Unfortunately, few lenders actively participate in the program. Lenders generally are not knowledgeable about the relationship between energy and affordability, they do not have a detailed understanding of the secondary market energy guidelines, and they perceive too little financial opportunity from these options to justify substantial efforts to use them.

Existing Homes. While many homeowners have taken steps to improve their homes' energy efficiency, the following barriers inhibit the realization of cost-effective measures:

-- *Homeowners lack clear information on the technical and economic aspects of energy measures*. From time to time, homeowners make decisions that have a major effect on their energy consumption: replacing a worn-out water heater, furnace, or refrigerator; adding or replacing an air conditioner; and dealing with a remodeling contractor are all examples of situations that involve significant -- but often unrecognized -- energy efficiency decisions. Except for the small percentage of homeowners who have received an energy audit, most people lack the cost and benefit information needed to make a well-reasoned choice that takes energy efficiency into account.

-- *The effect of energy measures on resale value is uncertain*. On average, houses change hands about every five to seven years [25]. Because there is a lack of information on the effect of energy retrofits on home resale value, owners are hesitant to undertake projects that might not pay back their costs through savings before the owners move. This often means that larger projects with substantial savings potential, but long payback periods, may not be pursued.

-- *Financing terms can discourage investment*. Home improvement loans typically have short repayment terms (3-5 years or less) and relatively high interest rates. When such loans are used to finance energy improvements, the monthly payments often exceed the energy savings; thus, even though the improvement will provide long-term benefits in excess of costs, the project may not be attractive to the homeowner. In some cases, financing for energy improvements can be rolled into the mortgage at the time of purchase, implying longer repayment terms and lower interest rates than are generally available with home improvement loans. As with the mortgage-related financing programs described above for new homes, however, these arrangements are available from only a small minority of lenders. A further impediment to these programs is that lenders have difficulty appraising the value of the improvements.

-- *Energy retrofit projects are often complex.* This barrier might be called the "packaging problem." Many homeowners are hesitant to tackle the multiple facets of a major energy project: arranging an energy audit, getting bids from contractors, finding financing, etc. Without a streamlined system for "packaging" these tasks, many worthy projects will not be undertaken.

Barriers to Efficiency in Multifamily Buildings

Multifamily buildings are more complex than single-family homes from technical, financial, and institutional perspectives. They embody more (and more complex) barriers to energy efficiency investment.

New Multifamily Buildings. For new multifamily buildings, the barriers cited above for new single-family homes also apply: lack of builder motivation to invest in energy efficiency, uncertainty about the performance of specific measures, and failure to consider the impact of energy costs in the financing decision. In addition, multifamily energy projects face these barriers:

-- *No relationship between developer and tenant.* While a single-family builder normally sells to an owner-occupant, who will pay energy costs and possibly demand energy efficiency features, the multifamily developer sells to an owner (or a group of owners, such as a partnership) that then leases units to tenants. The tenant thus has no relationship with the developer, and no direct way to influence the energy-related decisions that are made prior to leasing a unit.

-- *Tenant metering reduces developers' and owners' incentive to invest in efficiency.* The trend in new multifamily buildings is for individual energy metering (gas and/or electricity) of each unit, which effectively puts the entire energy cost burden on the tenant. This exacerbates the tendency to minimize first costs, and can result in inefficient energy equipment and building shell features.

-- *Financing sources do not consider energy costs.* Except for upper-income projects, developers are under pressure to keep their projects attractive to financing sources by keeping first costs down. And when a building is tenant-metered, energy costs have no effect on the owner's cash flows, so there is no reason to include energy in a financial analysis of the project. (Exceptions may occur in subsidized projects, where tenants' rent-plus-energy costs must fall within federal guidelines.)

Existing Multifamily Buildings. The rate of construction of multifamily buildings is much lower than that of single-family homes. This shifts the main energy focus in the multifamily sector to retrofits. There are several barriers to increased energy efficiency in existing multifamily buildings:

-- *Owners lack an incentive to make energy investments.* Where buildings are tenant-metered, the energy problem is usually perceived as the tenants', as long as equipment works according to the terms of the lease. Where buildings are master-metered, owners may have difficulty assessing to what extent energy inefficiency is due to tenant behavior or to the building's structural characteristics.

-- *Short tenancy reduces interest in energy investments.* Almost half of renters live in their apartments less than a year; more than three-quarters occupy their units for less than five years [26]. With such short time horizons, tenants are not interested in funding (through their rent payments) improvements that may not pay back for several years. By the same token, owners are unlikely to make substantial energy investments on behalf of tenants who can be expected to leave within a few years.

-- *There is a lack of reliable information on multifamily retrofit measures*. Multifamily buildings are both more complex and more diverse in their physical makeup than single-family homes. There is much less known about retrofit techniques for multifamily buildings; also, it is more difficult to know which measures will be cost-effective in a particular building.

-- *Financing for multifamily retrofits is unavailable or bears unfavorable terms*. Finding financing to improve multifamily buildings is difficult. Smaller buildings with individual owners often lack credit-worthiness for major loans; available credit often bears high interest rates and short terms. This makes it hard to achieve acceptable cash flow for many energy measures, especially those with long payback periods.

-- *Multifamily financing practices limit retrofit options*. Larger buildings, which are often financed in complex syndications over long periods, are not easily amenable to major investments in improvements after the financing is in place. When a building is re-financed or re-syndicated, some renovation is often undertaken; this is the only realistic time to seek major energy improvements, but the barriers applying to new construction arise here as well.

-- *Tax aspects of multifamily buildings reduce owners' interest in energy improvements*. Owners can expense 100 percent of energy bills in annual tax returns, achieving an immediate tax benefit to offset these costs. Energy improvements, however, must be depreciated over a long period, and so have less short-term tax benefits for the owner. Local property taxes may also increase when owners improve their buildings.

-- *Local rent control regulations can inhibit energy efficiency improvements*. In many cases, rent control laws allow owners to increase rents when energy costs increase; in contrast, owners may be prohibited from increasing rents to cover their debt service on energy improvements [27].

Subsidized Multifamily Housing. Because the rate of new construction of subsidized housing is so low, energy efficiency improvement in this sector is mainly a retrofit/rehab issue. Subsidized housing, either owned or assisted by government agencies, is subject to special constraints on energy improvements:

-- *Poor physical condition complicates energy retrofits*. In addition to the standard technical problems with multifamily retrofits, subsidized housing is often in poor physical condition. In many cases energy improvements are not feasible or economically worthwhile without major rehabilitation, for which there is a chronic shortage of public funding.

-- *Financing for energy retrofits is often unavailable*. Owners of assisted housing are often unable to obtain new debt financing for improvements: public funds are scarce, and projects' financial conditions typically do not allow them to qualify for conventional commercial financing.

-- *Subsidization of energy costs reduces incentives for efficiency improvements*. Public housing energy costs are paid primarily by HUD under a funding system that has discouraged housing authorities from reducing energy costs, because savings are recaptured by HUD in subsequent years. While HUD has experimented with policies to reduce this barrier, the problem largely remains. In assisted housing, energy bills may be simply passed through to an agency that provides utility allowances for tenants.

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V. Policy Initiatives Can Increase Affordability Through Energy Efficiency

Government action can affect the energy efficiency of new and existing housing, and thus its affordability, by addressing some of the barriers described above. In this section we put forth several initiatives that could be implemented by, or in some cases fostered by, government action at the federal, state, or local levels.

Some of the policy options below complement the recent National Housing Task Force report entitled *A Decent Place to Live* (referred to below as the NHTF report). The recommendations in this report are likely to form the basis of major new housing legislation; the energy issues raised in this paper should be included in the legislative debate.

Improve Energy-Related Building Codes and Standards

Building codes and standards, long accepted as necessary for health and safety reasons, can also be effective mechanisms for reducing some of the most basic barriers to energy efficiency in housing, such as builders' limited economic incentives to add energy features, and buyers' lack of information on energy efficiency. In the past, several national engineering and code official groups have developed model building codes, though these have been left to states and localities to enact and enforce. In recent years a national consensus process for developing model codes has emerged under the Council of American Building Officials (CABO).

Federal housing standards have in the past been developed for programs involving government housing assistance. The most widely-used of these, HUD's Minimum Property Standards (MPS), contained energy efficiency features that once exceeded private sector consensus codes. Recently, the energy provisions of the MPS have been abandoned in favor of state and local codes such as those developed through the CABO process.

Government policy options for improving residential building energy standards include:

- *Restoring the federal responsibility for setting standards for public and subsidized housing.* HUD's Minimum Property Standards have been abandoned: they should be restored, strengthened, and applied to all federally-assisted housing, including site-built, manufactured, and modular housing. Buildings should be required to meet the standards at the time of construction, sale, or refinancing. The Farmers Home Administration's energy standards provide a positive model for strong and well-administered building codes.

- *State initiatives to improve energy standards.* States can adopt the latest consensus model code such as the CABO Model Energy Code, or (like California and other states) develop more advanced codes to capture larger energy efficiency gains.

- *State and local efforts to bring existing buildings up to energy standards.* Most codes affect only new buildings. The existing housing stock, however, can be reached as well by requiring that buildings be brought up to energy efficiency standards when they change hands. A few states and cities, including Minnesota, Wisconsin, and San Francisco, have already implemented regulations of this type. Such policies should include selective exemption procedures and financial assistance for upgrading buildings, so that older or dilapidated buildings are neither devalued nor forced into abandonment.

Increase the Use of Home Energy Rating Systems

A complement to energy efficiency standards is the use of home energy rating systems (HERS), which do not prescribe energy features but assess the existing energy efficiency of the building and summarize it in a form useful to builders, buyers, tenants, and lenders. Rating systems can be tied to financing programs that offer favorable financing for efficient homes, and allow mortgage-based financing of energy efficiency improvements. Numerous rating systems have been initiated by states, cities, utilities, and builders. They are vastly different, however, in their format and technical approach. Also, most HERS focus on new, rather than existing, homes. The principal policy option in this area is:

- *A federal requirement that states create HERS* within basic federal guidelines (as was done in the Residential Conservation Service program). States should be given flexibility to design HERS that meet their needs, and that accommodate systems operated by their cities or utilities. Federal guidelines should provide for compatibility among HERS, such that builders and utilities operating in different areas can use consistent approaches, and so that consumers can understand different HERS when they move.

Key issues in designing home energy rating systems are how to handle new versus existing buildings, whether to make ratings voluntary or mandatory, and how to link the rating to methods for bringing sub-par homes up to minimum standards.

Upgrade Federal and Federally-Chartered Mortgage Programs to Better Encourage Energy Efficiency

In the last decade, Fannie Mae, Freddie Mac, FHA, and VA adopted special underwriting practices for homes incorporating energy efficiency features. The experience gained from testing these practices in the field shows that the need remains to better reflect energy costs in underwriting policies, and to more easily allow energy efficiency improvements to be included in mortgages. Some of the measures that could be taken to further these goals include:

- *Require use of actual energy costs in calculating affordability*. Utility bills should be included with loan payments and other expenses in the underwriting process for existing homes. While some lenders do this, they typically use "average" figures rather than actual energy costs. Utilities and fuel suppliers could be enlisted in providing this information conveniently to lenders. Adopting this practice would encourage energy efficiency, and could help buyers of efficient homes qualify for loans. An experiment taking this approach is underway in the Northwest, with HUD's Region X and the Northwest Power Planning Council.

- *Relax underwriting guidelines for efficient new homes in the FHA and VA programs*. Fannie Mae and Freddie Mac permit the use of more favorable underwriting criteria for buyers of homes that meet energy efficiency standards. This feature is used almost exclusively for new homes. FHA and VA should adapt their underwriting practices to include compatible features.

- *Ease the inclusion of energy improvements in mortgages*. Each of the four secondary market programs has provisions for including the cost of energy measures in mortgages, which can create very attractive financing. However, the policies are all different and contain various administrative problems that inhibit their use. The federal government should establish a task force to create a simplified method with provisions for each of the four programs. It should then make a major effort to educate the real estate industry and consumers about this option.

Provide Financing and Incentives for Energy Investments in Housing Assistance Programs

Lack of favorable financing is a pervasive barrier to energy efficiency investments. A variety of forms of financial assistance could help overcome the financing barrier and stimulate investments that are worthwhile from a long-run social perspective. Housing finance programs can also do more to encourage energy efficiency by creating incentives in their program structures. Some potential financing and incentives options include:

- *Including energy efficiency investment incentives in housing finance programs.* The NHTF report recommends a $3 billion federal Housing Opportunity Program (HOP) to stimulate development of low-income housing through assistance to state and local governments. It also urges creation of the Housing Opportunity Corporation of America (HOCA) to stimulate public/private and nonprofit ventures. If these initiatives are undertaken, the financing programs they create should include mechanisms to encourage investments in all economically justified energy efficiency measures. This policy can also be applied to existing housing assistance programs at the federal, state, and local levels. Some specific options for encouraging energy efficiency include:

  -- *In rehabilitation loan programs, treat funds used for energy measures as grants or deferred-interest loans, repayable on sale of the building.* This would encourage the addition of energy efficiency features without adding to up-front costs. The resulting cost reductions from the energy improvements would lower occupants' housing expenses, thus making the housing more affordable to the occupants without increasing costs to the developer.

  -- *Encourage builders to go beyond minimum building code energy efficiency requirements* by offering incentives such as special interest subsidies.

  -- *Include energy costs in affordability tests.* Proposed building projects should be subject to financial reviews that include energy costs with other factors in assessing whether prospective tenants or buyers can afford the housing units.

- *Foster the development of energy service companies for housing.* The NHTF report recommends the creation of HOCA to encourage local public/private solutions to housing problems. Whether through HOCA or through existing housing and energy agencies, public support should be provided to start up and support special "energy service companies" (ESCOs) for residential buildings. A private energy services industry has developed in the last decade; its hallmark is providing a complete package of analysis, installation, financing, and maintenance service at no initial cost to the building owner. Payments to the ESCO are linked to the energy savings it generates. This approach overcomes many of the key barriers to energy efficiency projects. For economic reasons, however, private ESCOs prefer larger commercial and institutional facilities. To serve residential buildings, an ESCO may need nonprofit status, low-cost financing, startup assistance, marketing support, and other forms of help. Public agencies should provide this kind of assistance. Such an effort could be administered at any level of government, or through utilities. Models for this approach have been created already at the state and local levels, such as the Citizens Conservation Corporation in Massachusetts and the RECAP program mounted by General Public Utilities.

- *Energy efficiency provisions in rental assistance programs.* The federal government should give rental assistance only when buildings meet energy efficiency standards. It should also permit a portion of rental assistance payments to be used to pay for energy improvements. The NHTF report points out that rental assistance is needed in some cases simply to cover energy and other

operating costs. Some low-income families spend a third of their incomes on energy alone. Thus energy efficiency initiatives in rental assistance can both reduce federal outlays and make recipients' housing more affordable.

- *Changes in local rent control laws to encourage energy efficiency.* Rent increases due to energy costs should be allowed only if a building has been brought up to energy efficiency standards. Also, owners should be allowed to include debt service for energy efficiency investments in rent calculations. In most cases, a landlord can increase rents if energy costs rise, but cannot do so to cover costs of energy improvements. This disincentive to invest in efficiency should be reversed.

Invest First in Energy Efficiency in the Effort to Rebuild Public Housing

The $10 billion to rehabilitate public housing called for in the NHTF report should be spent first on energy efficiency projects. Energy improvements, however, should be combined with enough other renovations to make housing projects fully livable. The subsequent reduction in HUD's billion-dollar energy bill for public housing should then be used to pay for more improvements. Recent studies (discussed in Section III) show that as much as half of HUD's public housing energy bill could be avoided through cost-effective energy improvements. Moreover, public housing authorities should be required to seek private financing for energy projects, which would create leverage for federal funds; the energy service company option described earlier could be used to create the delivery system for such energy projects. HUD's commendable experiments along these lines should be used to provide guidance for these initiatives.

Create Tax Incentives for Housing Energy Efficiency

Tax incentives are a traditional tool for motivating investment behavior. Beginning with the Energy Tax Act of 1978 (P.L. 95-618), Congress has at several junctures enacted incentives to stimulate investment in energy efficiency technologies, particularly those involving solar and renewable energy; most of these incentives (including those for residences) have expired. Moreover, the energy tax credits were generally not available to owners of multifamily housing, where most low-income households live. While federal tax-related incentives have fallen into disfavor because they have been seen as giving excess benefits to certain investors, and because of their potential impact on the federal deficit, they remain a key tool for bringing investment into low-income housing. New tax initiatives, carefully targeted for low-income housing, could include the following energy efficiency provisions:

- *Creating a tax credit for buildings that meet energy efficiency standards* in new and rehabilitated low-income housing. Special standards above minimum energy codes would need to be established.

- *Excusing tax-exempt bonds used for energy efficiency financing from current caps.* Tax-exempt bonds were a major financing vehicle for low-income housing until the Tax Reform Act of 1986 severely limited their use. Just as the development of new and rehabbed housing should be allowed freer use of tax-exempt financing, so programs to finance energy improvements in low-income housing should be allowed to use this key financing resource.

- *Setting shorter depreciation periods for energy-efficient low-income housing.* The 1986 Tax Reform Act extended depreciation periods for real estate investments. These should be shortened for new and rehabilitated low-income buildings meeting the special energy efficiency standards mentioned in the tax credit option.

- *Changing the rules governing the use of Low-Income Housing Credits to encourage energy efficiency* in projects using the credit. One of the most important features of the Tax Reform Act was its creation of Low-Income Housing Credits. These are allocated by state housing finance agencies to project developers. Federal rules governing use of the credits should be altered to enable state housing finance agencies to offer higher credit percentages or other favorable terms to projects that include energy efficiency features beyond minimum codes.

Increase Energy Efficiency in Rental Housing Through Better Metering

Federal programs and initiatives that affect rental housing should address this issue in two ways: (1) individual metering should be required to encourage tenants to conserve, and (2) individually-metered buildings should be required to meet the highest cost-effective energy efficiency standards. The federal government should also both urge and assist state and local governments to implement this kind of policy.

One of the major barriers to increased energy efficiency in rental housing (discussed in Section IV) is that many tenants don't pay energy bills and hence have neither the incentive nor the information to save energy. This is especially true in the older, centrally-heated apartment buildings that predominate in the Northeast. In newer buildings, individual metering is more common; in fact, many states require it in new construction. But this creates another problem: builders and owners, seeking low first costs, often install inefficient energy equipment, leaving the tenant with high costs and little control over them. Thus, while individual metering encourages tenants to conserve, strict standards must be applied to ensure tenant-metered buildings are energy efficient.

Continue to Collect Housing Energy Data

The administration has proposed to eliminate important questions asked about housing and energy use in the 1990 Census, and has cut back the Annual Housing Survey [28]. The Census and the Annual Housing Survey should continue to record energy usage and cost data on a regular basis, because energy is the largest cost of housing after rent or mortgage payments (see Section II). We must continue to collect this information on a regular basis to make informed policy choices.

Increase the Role of Energy Suppliers in Housing Energy Efficiency Programs

In recent years major energy suppliers, especially electric and gas utilities, have become key players in the delivery of energy conservation services. They have been most active in providing energy audits and related information to customers. In some areas they have offered incentives and/or direct financing for energy efficiency measures. Government policies could increase the roles of energy suppliers by:

- *Changing federal and state laws limiting utilities' provision of energy services*, such as financing and installation of customer energy equipment. While some utilities already have subsidiaries acting along these lines, many are barred from financing and installation roles due to concerns about potential anticompetitive behavior. Private contractors must be involved in this sort of initiative to avoid such concerns.

- *State least-cost planning initiatives*. Utility energy efficiency programs should be developed as part of least-cost planning processes, wherein energy efficiency and new supply are evaluated on an equal footing in planning for future resource needs. In one example, utility commissions would permit higher rates of return for efficiency investments. Another option would be to link efficiency programs to utility marketing programs; e.g. a utility commission could give utilities more latitude

to market desired technologies, while requiring such efforts to achieve net increases in customers' energy efficiency.

- *Enlist utilities to administer home energy rating systems.* Utilities could conduct ratings at the time of service connection (for new buildings) or account turnover (for existing buildings). This could be accompanied by sliding-scale service connection fees or rate incentives designed to encourage more efficient buildings. Another option would be to link the utility rating systems to mortgage programs such as those described earlier, and conduct ratings at time of sale in concert with lenders and real estate agents; this would create a potential financing vehicle for energy improvements.

The policy options described above are summarized in Table 7.

Table 7. Summary of Housing Energy Policy Options for Federal, State, and Local Governments.

Policy Option	Federal Actions	State/Local Actions
Improve energy-related building codes and standards	Restore HUD Minimum Property Standards	Adopt best available energy code
		Require code compliance at time of sale
Increase the use of home energy rating systems	Require states to develop HERS	Design HERS within federal guidelines
Upgrade secondary mortgage market programs to encourage energy efficiency	Use actual energy costs in calculating affordability	
	Relax FHA and VA underwriting guidelines for efficient new homes	
	Ease the inclusion of energy improvements in mortgages	
Encourage energy efficiency in housing assistance programs	Provide energy efficiency incentives in housing finance programs	Provide energy efficiency incentives in housing finance programs
	Foster energy service companies for housing	Foster energy service companies for housing
	Include energy efficiency provisions in rental assistance programs	Change rent control laws to encourage energy efficiency

(Continued on next page)

Table 7 (Continued)

Policy Option	Federal Actions	State/Local Actions
Invest in public housing energy efficiency	Fund energy efficiency projects first in rehabilitating public housing	
	Require housing authorities to use private funds for energy projects when possible	
Create tax incentives for housing energy efficiency	Offer tax credits for energy-efficient low-income housing	
	Allow use of tax-exempt bonds for financing energy efficiency in low-income housing	
	Accelerate depreciation for energy-efficient low-income housing	
	Change Low-Income Housing Credit rules to encourage energy efficiency	
Increase energy efficiency in rental housing through better metering	Require individual metering in federally-assisted rental housing	Require individual metering
	Require individually-metered buildings to meet high energy efficiency standards	Tie individual metering to high efficiency standards
Continue to collect housing energy data	Maintain housing energy data collection in Census and Annual Housing Survey	
Increase the role of energy suppliers in housing energy efficiency programs	Relax federal laws restricting utilities' role in energy services delivery	Conduct least-cost planning initiatives
		Enlist utility participation in home energy rating systems

VI. Conclusion

This paper shows that energy efficiency is a potent and underused tool for increasing housing affordability. Energy costs are a major part of housing costs, and changes in energy costs can substantially affect affordability, especially for low-income households.

The potential for further energy savings in residential buildings remains great, with a minimum 25 percent savings estimated to be available through cost-effective investments. This level of savings would cut $25 billion from our nation's housing costs, and would help two million households bring their housing costs into the affordable range.

To realize these benefits, several market barriers to increased energy efficiency in housing must be reduced. Federal, state, or local governments could pursue a number of policy options in seeking to increase housing affordability through energy efficiency. These options are principally in the areas of building codes and standards, home energy rating systems, financing policies, regulatory policies, tax incentives, and involvement of major energy suppliers.

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House of Representatives

ENERGY EFFICIENCY RATINGS FOR HOMES OFFERED UTILITIES. SPECIAL LOANS OFFERED BY LENDERS FOR ENERGY-SAVING HOMES

HON. RICHARD L. OTTINGER

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Thursday, September 30, 1982

● Mr. OTTINGER. Mr. Speaker, this October an exciting experiment gets underway in Massachusetts that will offer unusually attractive loans to buyers of energy-efficient homes and make such homes accessible to consumers who could not otherwise afford them. The experiment grows out of a concept presented last year at a hearing on "Energy Efficiency Labels for Buildings" before the Subcommittee on Energy Conservation and Power, which I chair.

At that hearing, the subcommittee learned that home buyers who are interested in buying energy-efficient houses may be penalized because they are unable to qualify for the mortgage on a more expensive, but more efficient home. Because a house that is well insulated and contains other energy-saving features often carries a higher price tag than a similar home without such improvements, lenders may be reluctant to grant a mortgage for the more expensive house to a buyer with a modest income. Lenders may not take into consideration the fact that the more efficient home requires lower fuel costs, thus making it easier for the home buyer to meet higher monthly mortgage payments.

The Federal Home Loan Mortgage Corporation ("Freddie Mac"), which buys from primary lenders a large number of the home loans made in this country, testified at our hearing that it was willing to consider purchasing loans with more lenient guidelines over the buyers' income, if the home contained energy-efficient features. In its testimony, Freddie Mac noted that it is often difficult for the lending community, however, to judge accurately the likely energy costs of a house. The Mortgage Corporation suggested that a nationwide energy rating system be developed which could provide the housing and finance industry with a method by which energy-efficient properties could be identified. Freddie Mac, among other witnesses from the building and lending industry, suggested that utilities might be the institution best qualified to provide energy-efficiency ratings. Utilities could easily determine the rating as part of the energy audit they currently offer to residential customers under the Residential Conservation Service. Freddie Mac suggested. Under the federally mandated RCS program, utilities ofer to inspect a customer's home and recommend energy-saving devices and measures.

I am delighted to report that the innovative concept proposed at our hearing is currently being applied on an experimental basis in Massachusetts, primarily through the enthusiasm and cooperation of utilities, lenders, and real estate agents in that State. Starting next month, Mass Save, a nonprofit organization formed by Massachusetts utilities to conduct RCS audits, will offer energy-efficiency ratings to 600 homes throughout the State as an additional component of the audits.

The project, which was initiated by the Alliance to Save Energy and Energyworks with funding from the Department of Energy, has developed a simple, standardized energy rating that would enable all users—whether consumers, lenders, real estate agents or appraisers—to compare the energy efficiency of different properties.

As part of the project, numerous lenders in Massachusetts have agreed to make loans with higher-than-usual ratios of debt to the borrower's income for homes considered energy-efficient by the Mass Save rating. In addition, in cases where buyers would like to make energy-efficiency improvements, Massachusetts lenders have agreed to augment the house mortgage to provide long-term financing for those improvements. The lenders expect that the annual fuel savings from these improvements will offset the additional loan payments. Finally, loans that use the Mass Save rating as documentation for a more generous debt-to-income ratio, will be accepted both by Freddie Mac and the other major purchaser of home mortgages, the Federal National Mortgage Association or Fannie Mae.

If the project is considered successful, it is expected that Mass Save would offer the rating on a statewide basis as part of the RCS audits. In addition, a successfully applied rating could be of enormous use to other States and localities interested in providing improved information to homeowners, homebuyers, and local lenders about energy efficiency.

Although this rating system was developed for existing homes, it would be equally applicable to new houses. As we discovered at our hearing, homebuilders often have little incentive to build efficient homes with higher first costs because they fear that such homes will be beyond the reach of many prospective buyers. A credible efficiency rating would be a boon to such builders, as well as to home buyers.

It is important to note that the energy efficiency rating was developed in consultation with both lenders and utilities and drew upon the impressive results of energy conservation research funded by the Department of Energy. This project is an excellent example of how the Department of Energy can support the private sector in developing information that is useful to consumers as well as to the industries most closely associated with home buying. I would particularly like to commend the Massachusetts utilities for their interest and imagination in providing accurate information and improved lending conditions to their residential customers.

I will be following the results of the Massachusetts labeling program with great interest. I look forward to inviting the participants in the project to testify on their experience before the Subcommittee on Energy Conservation and Power next year.●

(Not printed at Government expense)

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HOME ENERGY RATING SYSTEMS:

PROPOSAL FOR A NATIONAL POLICY

OVERVIEW

This proposal is based on a workshop moderated by The Alliance to Save Energy in October 1989 as an adjunct to a larger conference called **Making Housing More Affordable Through Energy Efficiency**. Arising from the twin needs for affordable housing and increased energy efficiency, the workshop brought together more than 40 people including Congressional staff, utility managers, home builders, energy research experts, federal energy and housing agency staff, state and local government people, nonprofit energy organization leaders, member of the media, and others. These people represent most of the accumulated experience with home energy ratings, and thus comprise the right forum to begin building a consensus for a national policy.

SUMMARY OF RECOMMENDATIONS

From the workshop's discussion of the major issues in home energy rating systems (HERS), several recommendation for a national hers policy are summarized below.

1. **There should be a national policy for HERS**, guided by the following objectives:

   a. Meet the needs of a variety of organizations with different kinds of objectives.

   b. Allow flexibility for different delivery systems and local preferences.

   c. Support and trigger energy efficient mortgage programs.

   d. Define a common threshold criterion for energy efficiency that can be used in energy efficient mortgage programs.

e. Be capable of rating energy efficiency of both new and existing homes.

f. Address the issue of permanence/longevity of energy ratings.

g. Apply cost-effectiveness tests to proposed energy rating guidelines.

h. Provide adequate institutional direction and support for a uniform HERS policy.

i. Provide for adequate quality control of rating tools produced under this policy.

2. **To develop and administer the program, the federal government should designate a nonprofit organization to create guidelines and support mechanisms for local energy ratings programs.** This effort would build on the experience gained by existing rating organizations, such as Energy Rated homes and others. There would be few if any strictures on who could develop and deliver HERS, as long as they met the guidelines and passed quality control requirements set by the nonprofit. State agencies, local governments, utilities, local nonprofits, builders and others would be able to run their own programs under federal guidelines.

3. **Link home energy ratings to energy efficient mortgages (EEMs).** Since the early 1980s, programs have been available to either make mortgage qualifying easier for buyers of energy efficient homes, or to add the cost of energy improvements to mortgages at the time of purchase. Both options can make housing more affordable. Yet home energy ratings are needed to provide the technical information for EEMs. Likewise, EEMs provide the incentive to do energy ratings. Thus HERS and EEMs are two components of a larger energy and affordable housing policy picture. They should thus be developed in a coordinated fashion. The Alliance is conducting a parallel development effort for EEMs which reflects this necessary link.

4. **HERS should be voluntary rather than mandatory.** Mandatory efficiency labels for automobiles and appliances go on new products at the factory; HERS affect both new and existing homes, and involve more people: builders, Realtors, lenders, homeowners, homebuyers, appraisers, and others. Mandatory HERS would meet significant resistance among this array of different interests. With up to five million home sales annually, a national time-of-sale rating requirement would be hard to enforce. The consensus of the workshop is for a national HERS policy based on voluntary participation with incentives provided through EEM options.

5. **HERS policy must include a clear set of labelling requirements.** The label must be similar in appearance and in

place of display around the country. It must contain a standardized index of energy efficiency that is consistent nationwide. However, it should also allow local programs to display their own logos and rating information. It may also be desirable to include some basic component information, such as insulating values of walls and ceilings, windows, and heating and cooling equipment efficiencies.

6. **The HERS guideline-setting process must make careful decisions about what building features to include in rating tools.** The performance of the thermal envelope must certainly be rated; the efficiency of heating and cooling equipment must be accounted for if operating costs are to be calculated. While the basic rating must not discriminate between energy sources, it must be able to accurately predict energy costs. Other features, such as air infiltration, credit for thermal mass, advanced control technologies, and cooling load must be addressed as well. 7. HERS policy must address the issue of indoor air quality, to avoid the perception that HERS and energy-efficient homes may exacerbate indoor air quality problems.

7. **Development funding** -- The federal government should fund its designated nonprofit group adequately over a multi-year period to: develop HERS guidelines in concert with the shelter and energy industries and other stakeholders; field test the guidelines in one or more states; provide technical assistance to local program sponsors; and develop and administer education programs for consumers and shelter and energy industry professionals.

8. **Implementation support** -- The federal government should provide financial assistance to local program sponsors to help launch local HERS efforts. In addition, federal energy and housing assistance programs should administer energy ratings through their operations to stimulate the market

BACKGROUND

Home energy ratings have existed for several decades, dating from Edison Electric Institute's Gold Medallion Home developed in the 1950s. However, it was not until the energy crises of the 1970s that rating systems began to proliferate. Scores of energy efficiency programs sprang up that put some sort of efficiency label on a certain home design. However, most of these efforts prescribed a fixed package of efficiency measures. Individual homes either passed or failed these "yardsticks". Hence this type of energy rating is called a "pass-fail" or "certification" system.

While these ratings are useful to help draw consumers' attention to more energy efficient homes, they don't truly rate a given home against the efficiency of other homes in the local area. Thus they don't give consumers a way to understand how one home

compares to another in terms of energy efficiency. Home energy rating systems in the truest sense contain a scale on which all homes in a given area can be compared. The scale may use "stars" (such as the Energy-Rated Homes of America system, in which one-star homes are least efficient, five-star homes are most efficient), colors, or a numerical scale (1-10, 1-100, etc.) on which to rate homes. Relatively few of these "true" rating systems have been made it into the marketplace.

Dozens of certification and rating systems are used by utilities, builders, and product manufacturers. Of the "true" rating systems, the most widely used system is administered by Energy Rated Homes of America, which has established systems in several states. Energy Rated Homes has, among other things, established a data base of rated homes, set up a committee to begin developing criteria for technical accuracy of rating tools, and proposed using the Energy Rated Homes system as the basis for a national home energy ratings program.

WHY A NATIONAL HERS POLICY IS NEEDED

There are three principal reasons why we need to act now to establish a national policy for home energy ratings:

- HERS are a tool for both affordable housing and increasing energy efficiency, two important national goals.
- Individual consumers as well as the nation have benefitted from energy labels on cars and appliances. Yet for our homes, source of our largest consumer energy bills, we have no way of knowing what's efficient.
- Energy ratings are a key companion to energy efficient mortgages (EEMs). To get the full benefits for affordability and energy efficiency, HERS and EEMs must work together. With EEMs proposed in pending legislation, now is the time to develop HERS in tandem.

WORKSHOP SUMMARY

The challenge for the workshop was to envision a national policy that allows for wide diversity in rating tools and delivery systems but establishes guidelines that would allow consumers to compare the energy efficiency of homes on a common scale. While falling short of establishing a single, inflexible rating system, the guidelines must force enough consistency among local efforts that consumers and energy and shelter industry people perceive that a national program is working.

ISSUES

1. The need for and objectives of a national HERS policy

There was no opposition voiced to the concept of a national HERS policy. No one took the position that we should do nothing on this issue. The group's concerns focused more on the objectives and content of the policy.

HERS have been created by different organizations for different reasons: by utilities to support their customer service and marketing programs, by builders to help sell homes, by state governments to support energy efficiency policy, and by nonprofits to provide an independent source of ratings. The rating methods vary greatly, from fairly simple prescriptive packages to sophisticated, computer-based analysis tools.

Given this diversity, the group agreed that the goal of a national home energy ratings policy must be to accommodate the variety of objectives and methods used in the marketplace, while creating a uniform set of guidelines that all local rating programs must meet. These guidelines, regardless of the specific local rating effort in which they are applied, should give consumers simple and consistent information that permits them to compare the efficiency of different homes.

Under this consensus goal, the group voiced several objectives for a HERS policy:

a. Meet the needs of a variety of organizations with different kinds of objectives.

b. Allow flexibility for different delivery systems and local preferences.

c. Support and trigger energy efficient mortgage programs.

d. Define a common threshold criterion for energy efficiency that can be used in energy efficient mortgage programs.

e. Be capable of rating energy efficiency of both new and existing homes.

f. Address the issue of permanence/longevity of energy ratings.

g. Apply cost-effectiveness tests to proposed energy rating guidelines.

h. Provide adequate institutional direction and support for a uniform HERS policy.

i. Provide for adequate quality control of rating tools produced under this policy.

2. Administration and delivery systems

The workshop considered two basic alternatives for the administration and delivery systems of a national HERS policy:

a. The federal government would set guidelines and program rules; states would develop and administer HERS programs. This has been the model used for many federal energy efficiency programs; the closest analogy is the recently-expired Residential Conservation Service (RCS) program. In RCS state energy offices developed plans for delivering energy audits to households; utilities administered and delivered the audit programs.

b. The federal government would designate and fund a nonprofit organization with the mission of developing national guidelines for HERS tools and programs. This effort would build on the experience gained by existing rating organizations, such as Energy Rated homes and others. It would directly involve shelter and energy industry groups and other stakeholders in the development process. Once the guidelines were in place, there would be few if any strictures on who could develop and deliver HERS, as long as they met the guidelines and passed quality control requirements set by the nonprofit. State agencies, local governments, utilities, local nonprofits, builders and others would be able to run their own programs under federal guidelines.

The consensus of the workshop favored the second model. Various individuals voiced concerns that the first model would be too bureaucratic, too limiting, and too expensive. Others expressed dissatisfaction with the success of the RCS program, saying it would not be the right model for a HERS effort.

3. Linkage to Energy Efficient Mortgage (EEM) programs

Home energy ratings and energy efficient mortgages are highly interdependent. EEMs allow one of two things: homes that are energy efficient can allow buyers to qualify for mortgages more easily; or when homes need energy improvements, buyers can finance them through the mortgage. HERS are needed to determine whether the home is energy efficient, and thus whether the buyer qualifies more easily for a mortgage. Many HERS can also provide information on energy improvements; this can support the EEM option for financing retrofits in the mortgage.

The major secondary mortgage market institutions -- Fannie Mae and Freddie Mac, as well as the FHA and Veterans mortgage programs -- each have these policies in varying forms. However, marketplace use of these programs has been sparse, for various reasons. One is that these programs lack uniformity and simplicity sufficient to encourage wider use. The Alliance is coordinating an effort to explore a uniform national EEM program. Another perceived limitation on the use of EEMs is the lack of home energy ratings to provide the basic technical and economic information needed to "trigger" an EEM.

Thus HERS and EEMs are thus parts of a larger policy picture related to energy and housing affordability. They need to work in tandem for either to be fully effective. The workshop participants emphasized the importance of linking HERS and EEMS. Without EEMS, there will be limited incentive to do ratings or to implement recommended retrofits. Without HERS, EEMs lack a "trigger" of basic information on the home's energy efficiency and retrofit needs.

4. Mandatory versus voluntary HERS

The workshop participants largely favored a voluntary approach. While from a certain perspective mandatory HERS are appealing because they can reach a large portion of the market relatively rapidly, there are many disadvantages. One is the resistance likely to arise from those who must incorporate the ratings into their normal business practices, such as the real estate and lending industries. Another is the enforceability problem: for example, a mandatory system in Denmark achieved high initial compliance, which fell off dramatically in the second and third years for lack of enforcement. In this country, with 4-5 million home sales each year, this problem could be insurmountable. A third concern is that mandatory, blanket rating of homes will reduce the value of those rated low on the scale; this could penalize senior citizens in older homes and low-income families in deteriorated buildings, among others. Voluntary ratings, combined with EEM options, would allow this older stock to be upgraded without forcing unwanted economic penalties through forced ratings.

While the workshop consensus was for voluntary ratings, two provisions were seen as important to making the voluntary system work. One is that disclosure of the EEM options to homebuyers should be mandatory; much less burdensome than mandatory HERS, this would raise consumer awareness of both EEMS and HERS, and would indirectly help drive the market for HERS. The other provision is that the cost of energy ratings should be allowed to be financed in mortgages, to reduce the perceived cost barrier to wider use of HERS.

5. The labeling component of HERS

There is an important distinction between a rating system and a home energy label. The rating system may involve many facets the consumer never sees: computer software, engineering assumptions, data collection procedures. But the label presents the information to the consumer (and possibly to Realtors, appraisers, lenders, etc.). Thus the information it conveys is crucial to the value and effectiveness of the rating system.

The consensus of the workshop is that careful thought should go into the design and content of the label, as distinct from the guidelines for rating systems. The label must present information that is simple and consistent enough to make sense to consumers, but detailed enough and with enough background to be useful to professionals. It must accommodate the input of many different rating methods, and should balance the need for objective technical information (R-values of envelope components, appliance equipment ratings, etc.) with rating information.

A label might contain as much as three kinds of information: technical data on the building, the rating system's designation (four-star, etc.), and an index set by national guidelines that is consistent across the country. The technical data is of value to appraisers, utilities, and other professionals; the rating designation reflects the design of the local system; and the index allows comparison of homes rated under different system. For example, a building with R-19 walls, R-2.5 windows, R-38 ceilings, and a furnace of 90+% efficiency might be a Four-Star home in the local rating system, and might rate a 5 on an index of BTU per square foot per degree day. The label could potentially include all of this information. Figure __ shows a sample label developed by IRIS Communications in Oregon. This is being used by Bonneville Power's Super Good Cents program and several other rating/certification programs. The federal guideline-setting process must decide how to handle these issues. Too much or the wrong kind of information could confuse consumers and defeat the overall purpose of the program. Too little information, on the other hand, could limit the usefulness of the energy ratings.

The choice of the common index used nationwide will be critical. The workshop participants differed on what index should be used. Some asserted that BTU/square foot/degree day should be the common index, because it is relatively simple and easy to relate to calculation methods. Others urged a standardized point system such as Energy Rated Homes', expressed as a percentage of energy savings achieved in comparison to potential savings for the home. The guideline setting process must give particularly careful consideration to this issue.

6. Building features included in the rating

Setting guidelines for rating systems will include defining the building features that go into a rating. The guidelines will have to set minimums for what must be included, and also set limits for additional features local systems may want to include. At a minimum, the rating should assess the thermal performance of the building shell. The issue then becomes the extent to which heating and cooling equipment, water heating systems, renewable energy equipment, major appliances, lighting, passive heating and cooling, and other features are handled in the rating guidelines. I was pointed out that to make use of EEM options, ratings must include all features that have a major effect on energy costs. This implies that equipment efficiency must be included as well as enveloped components. It was also suggested that rating methods must take into account interactions among building components and mechanical systems. It was also suggested that an institutional process should be established to consider the inclusion of new building technologies, such as advanced control technologies and construction methods using thermal mass, in the national rating system guidelines.

Three issues under this topic drew special emphasis:

a. Fuel Source -- Some rating systems specify a certain energy type or heating/cooling equipment; others are fuel-blind; and others factor in heating and cooling equipment efficiency without favoring one energy type or technology. The workshop participants generally agreed that a national HERS policy should permit different parties to pursue their marketing goals, which means allowing organizations such as energy suppliers to include energy type specifications in their systems. However, it was also agreed that such objectives should not compromise the objectivity of the basis rating tool: the basic analysis tool should be fuel neutral in calculating efficiency and operating cost. Local energy prices and operating costs should be included in the rating tool; this will account for differences in energy type and local prices. Certification systems that specify energy type would operate in parallel with the rating tool.

b. Air infiltration -- Few HERS now test homes for airtightness, though it is a major component of heating and cooling loads. There was a difference of opinion among participants on this issue. Some hold that while air infiltration testing should be mandatory for all ratings, it should be required for a house to be rated high in airtightness. Others asserted that air infiltration testing via blower doors should be mandatory to ensure the accuracy of ratings, because air infiltration is one of the largest variables affecting heating and cooling loads. It was also

suggested that if air infiltration is included in a HERS, it should take into account the type of air distribution system in the building, and the effect of single-return forced air systems on inducing higher rates of infiltration.

c. Cooling energy -- Most HERS emphasize energy efficiency for home heating. With the rapid growth in many Sunbelt states, it is increasingly important to account for cooling efficiency in HERS. Technical tools are available in the research community; they need to be recognized in national HERS guidelines.

7. Indoor Air Quality

Because radon and other indoor air quality problems are growing in terms of public awareness as well as government involvement, a HERS policy must deal with the potential conflicts between energy efficiency and indoor air quality. There is a perception that energy efficient homes, being generally more airtight than others, concentrate indoor air pollutants and thus create health hazards. While the scientific evidence to date does not support this perception, it is still important to head off any negative repercussions that could compromise energy efficiency goals in the name of healthier homes. Thus HERS should take ventilation into account; a national policy should encourage adequate ventilation in conformance with accepted standards. Failure to do so could result in bad publicity and potential liability for HERS providers.

IMPLEMENTATION

The last part of the workshop was a discussion of implementation issues. These fell into two categories: funding, and ways to stimulate the demand for ratings.

1. Funding Issues

a. Development -- It will take federal funding to support the development of technical guidelines for HERS and the institutional framework to administer them. For example, S. 1355 calls for $22 million over four years to accomplish this.

b. Local Support -- Field experience has shown that HERS require substantial funding and sustained leadership over several years in order to succeed in the private marketplace. Successful efforts have needed as much as $500,000 and five years to become self-sustaining. A national HERS policy should contain measures to sustain development at the state and local level until the

private market supports local HERS. Many state and local governments and nonprofits may not be able to develop HERS without some federal support.

2. Stimulating HERS implementation

The participants "brainstormed" several ideas for spurring the use of energy ratings:

a. Buyer information -- Homebuyers (and potentially renters) are the prime audience for home energy ratings. Thus they must be educated and informed if energy ratings are to enjoy wide use. They must be educated about the benefits and basics of energy ratings, and they need to be informed of the specific steps they can take to get a rating. While there was little support in the workshop for mandatory energy ratings, there was interest in creating mechanisms by which information on rating systems can be conveyed to homebuyers. It was suggested that disclosure to mortgage applicants of the availability of energy efficient mortgages could help stimulate demand for energy ratings. Getting sellers to include energy costs in multiple listings was another idea.

b. Federal energy programs -- It was suggested that the Weatherization and Home Energy Assistance Programs could include energy ratings in their procedures. They could also require retrofits to bring homes up to certain efficiency thresholds.

c. Federal housing programs -- FHA and VA could do energy ratings on repossessed homes, and offer mortgage financing for retrofits to prospective buyers. This is being done on a trial basis in California in a project known as CHEERIO (California Home Energy Efficiency/Real Estate Owned). This could also apply to property owned by the Resolution Trust Corporation as part of the S&L property disposition program. HUD housing assistance programs such as Section 8 could require ratings of assisted properties, and could require properties to meet certain efficiency levels.

d. Mortgage Policies -- The Energy Efficient Mortgage program could be the most important driving force for home energy ratings. Participants urged that a uniform EEM be developed, and that its availability be disclosed to homebuyers as widely as possible. It was also suggested that other mortgage incentives be considered, such as increasing the maximum loan-to-value limits on mortgages for energy-efficient homes.

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ENERGY EFFICIENT MORTGAGES:

PROPOSAL FOR A UNIFORM NATIONAL PROGRAM

OVERVIEW

This proposal is based on a workshop moderated by The Alliance to Save Energy in July 1989. The workshop sought to evaluate nearly a decade's experience in trying to use four programs created to offer mortgage financing incentives for home energy efficiency. Collectively known as Energy Efficient Mortgages (EEMs), these programs have had varying degrees of success in the field. Spawned by the growing need for affordable housing, a renewed call for increased energy efficiency, and a Department of Energy-supported effort to suggest guidelines for a uniform EEM program, the workshop's goal was to assess the potential for unifying the four programs to make them easier for consumers and shelter industry professionals to use. This proposal summarizes the results of the workshop and provides a starting point for development of a Uniform EEM program.

SUMMARY OF RECOMMENDATIONS

1. **Expand consumer and professional awareness of EEMs.** The federal government, in cooperation with shelter and energy industry groups, should conduct education programs to make consumers and professionals aware of EEMs, their benefits, and how to use them.

2. **Set uniform, streamlined underwriting rules for EEMs to speed loan approval and avoid unacceptable lender risk.** There are three principal guidelines that could accomplish this objective:

   a. Limit the total amount of energy improvements to 5% of the appraised value of the property.

   b. Limit the total loan to value ratio of EEM loans to 90%.

c. Limit allowable energy improvements to a pre-approved list, selected with pre-approved analysis tools, to assure that energy savings will be achieved. Federal research would be drawn on to certify approved energy measures and analysis tools.

3. **Establish a uniform appraisal/valuation method for EEMs.** This would include:

a. **Universal adoption of FHLMC form 70-A as the basis for EEM appraisals.** This would also entail setting a uniform threshold for "high" energy efficiency, above which homes would qualify for relaxed underwriting guidelines.

b. **Modification of the existing 70-A value-of-savings appraisal method.** Instead of using the prevailing mortgage rate for the discount rate and seven years as the maximum service life of energy measures, the new method would use the Federal Energy Management Program's prevailing discount rate and 15 years as a maximum service life.

4. **Permitting alternatives to escrow arrangements.** EEM improvements are now funded through escrow accounts established at settlement. Many lenders are averse to creating escrow accounts at closing, because they can complicate the transaction and delay loan resale. Alternatives such as disbursing energy improvement funds to third parties such as utilities, local governments, or nonprofits could eliminate this perceived negative for lenders.

5. **Setting uniform guidelines for easing qualifying ratios for buyers of efficient homes.** The four EEM programs should permit local EEM practitioners to receive full credit for energy savings in the underwriting process. If, for example, a builder can show that his homes use $70 less per month in energy costs than comparable homes without energy efficiency features, that $70 should be credited to the projected mortgage payment to reduce the payment to income ratio in the underwriting process. If dollar savings cannot be adequately shown, but the home exceeds the threshold set in 3.a above, the buyer should be accorded a standard "ratio stretch" of two percentage points in the payment-to-income ratio used in underwriting the loan.

6. **The Department of Energy should support the development of a uniform EEM program** through its research efforts, helping coordinate a working group built on the workshop's participants, sponsoring field tests, and related efforts. This support should be part of a larger energy and affordable housing initiative that includes home energy rating systems developed in concert with the uniform EEM program.

BACKGROUND

This two-day workshop was held to review the four programs, collectively known as Energy Efficient Mortgage programs or EEMs, developed over the last decade by Fannie Mae, Freddie Mac, the Federal Housing Administration (FHA), and the Department of Veterans Affairs (VA) to make our nation's housing both more affordable and more energy efficient.

These programs were established in response to the energy crises of the 1970s. However, various problems have emerged in the use of these programs at the local level. Moreover, with the housing affordability problem growing, and with energy efficiency taking on increased importance in the solution of global environmental problems, the time had come to re-examine these EEM programs, to look for ways to streamline, simplify, and coordinate them.

The workshop was organized by The Alliance to Save Energy because of its long association with the EEM programs as they were developed and tested. The Alliance has for several years received support from Fannie Mae and Freddie Mac to do research and policy development in support of these programs. It was developed in cooperation with the U. S. Department of Energy, which had funded a study by the Uniform Energy Efficient Mortgage Steering Committee, A California group with extensive experience in trying to use these programs.

Those invited to participate represent a broad spectrum of interests, from the four secondary mortgage market institutions to shelter industry trade associations such as the National Association of Home Builders, the National Association of Realtors, and the Mortgage Bankers Association, as well as researchers and practitioners with extensive direct experience in the use of these programs.

The day and a half of discussions explored the key issues in considerable depth. The result was an outline of what could be a Uniform Energy Efficient Mortgage, pending a number of actions that would need to be taken. Below is a summary of the discussion, which also serves as a preliminary outline for a uniform program. It is followed by an action plan, listing several concrete steps that could lead toward a uniform program.

DISCUSSION SUMMARY/OUTLINE FOR A UNIFORM PROGRAM

This summary is organized by the principal issues that took shape in the course of the workshop.

1. Consumer awareness

Part of the discussion on this issue revolved around more prominent, mandatory disclosure. Making disclosure of these

programs to homebuyers mandatory at the time of sale could increase consumer awareness of them, but it would not necessarily trigger significant consumer response. It would also create a perceived paperwork burden for lenders and others required to make such disclosures. This in turn could produce a reaction against these programs and lead to loophole-seeking behavior that would harm rather than help the cause of wider use of EEMs.

Most of the group felt that a voluntary consumer awareness effort would be more effective, and more in the spirit of a streamlined, market-driven program. One proposal was that the Department of energy develop educational literature on the EEM program, and that shelter industry and energy groups distribute them widely. This would need to accompanied by training and education programs to reach lenders, real estate agents, builders, consumers, and others. The secondary market institutions and shelter industry groups present voiced support for such an initiative.

2. Financing the additional fees in an EEM transaction

Some practitioners said that the programs would be easier to use is the cost of fees involved, such as a home energy rating fee or an appraisal addendum fee, could be rolled into the mortgage. Such fees may typically run from $150 to $300.

Fannie Mae responded that the fees are small in the context of a mortgage transaction, and that they are not a significant barrier. All of the secondary market institutions expressed concern about the soundness of financing fees; only FHA indicated that it might consider doing so.

It was pointed out that fees can be financed indirectly, by raising the loan amount slightly, if this did not upset normal underwriting criteria.

The consensus of the group appeared to be that financing of EEM fees could be hard to justify, and may not be the most important issue in the program.

3. Timing of EEM procedures in the loan approval process.

As the EEM programs are now designed, in all but the VA program, the energy ratings and identification of improvements must be completed before the loan underwriting begins. This means that the technical and economic analysis, and associated paperwork, must typically be done within a few weeks, or less. The trend toward streamlined loan approvals may squeeze this timeline further.

This tight timeframe poses a problem for some practitioners, who say it is not possible to get everything done so fast. Others, such as the Vermont program, say they can run the energy rating,

appraisal, and paperwork within a week or two, without normally delaying the underwriting.

If the rules do not change, EEM practitioners will have to accelerate their delivery systems to accommodate the underwriting process. The more pertinent issue is whether the energy addendum to the mortgage can be exempted form the underwriting of the base loan. This issue is explored more fully in the next two discussion items.

4. Resolving underwriting and appraisal issues by setting proper cost limits for energy improvements.

When EEMs add energy improvements to the home, they usually complicate the underwriting and appraisal process. The buyer must qualify for the higher loan amount, which may make it harder to underwrite the loan. The improvements must also be appraised, which may affect the loan-to-value ratio, further throwing the underwriting into question.

The VA program is the exception. It allows the improvement to be added to the loan without changing the underwriting or requiring an additional appraisal, greatly simplifying the entire process. The VA justifies this in part by setting a cost limit ($2000) for improvements; the presumption is that this amount is small enough not to threaten the quality of the loan.

The workshop discussion centered on whether the other programs could take an approach similar to VA's; that is, set a cost limit below which the EEM improvements bypass the base loan underwriting and appraisal process. There are several sub-issues involved in this:

a. What basis to use for the cost limit--Fannie and Freddie use a percent of value basis; FHA and VA use a fixed dollar amount. A percent of value basis seems most consistent from an underwriting point of view; hence a uniform program should use this kind of basis. It would also be advisable to set a total dollar cap, to prevent over-generous cost caps on EEMs where there is rapid value appreciation. It may also be wise to allow a cost minimum, to prevent low-housing-cost areas from being shut out of cost-effective EEM improvements.

   The Steering Committee's report called for a cost limit formula like this, based on percent of value with a cost floor and a cost ceiling. Their recommendation was for a 5%-of-value limit, with a floor of $4000 and a ceiling of $7000. These numbers may need closer economic analysis, but serve as a starting point for a uniform EEM.

b. How to allow EEM improvements to bypass the underwriting process--For a lender, or a secondary loan purchaser, to allow energy improvements to be exempted from the normal appraisal and underwriting process, they would have to be assure that their risk was not increased. To assure this, the lender would need to be reasonably confident of several things:

- that the increased mortgage payment would be fully offset by energy savings
- that the value of the home would increase at least as much as the cost of the improvements
- that the total loan amount represented an acceptable fraction of the home's value
- that a default would not expose the lender to a loss

These considerations can be addressed by:

i. limiting the amount of the energy improvements to an acceptably low level (e.g. 5% of home value)
ii. limiting the total loan-to-value ratio of the base loan (e.g. 90%)
iii. limiting the energy improvements to a pre-approved list that have been shown to be cost-effective
iv. allowing energy improvements above the cost ceiling with proper appraisal and other backup

One concern, raised by Freddie Mac, was that allowed unappraised energy addenda to loans could complicate the securitization of mortgages, when Freddie packages them into securities for sale to investors. This issue will require further examination before such features can be made part of a uniform program.

5. Establishing uniform valuation/appraisal methods for EEMs.

There are two related issues here: whether to adopt a common valuation method, and whether the present-value-of-savings method of valuation can be changed to place higher value on the energy savings generated by EEMs.

a. Adopting a common method--Fannie and Freddie use the Energy Addendum to the Standard Residential Appraisal Form (known as Form 70-A); FHA and VA do not use 70-A. If FHA and VA were to use the 70-A, two aspects of it should be re-examined. One is the definition of high efficiency used in the 70-A; FHA is now proposing a separate set of guidelines; Fannie and Freddie use the Home Builders Thermal Performance Guidelines. A common definition is needed for a uniform EEM program. The other aspect is the basis for determining value. A uniform EEM program may have a cost limit under which cost would equal value, but other than that, a method

is needed for determining value when market comparables are not available.

b. Changing the parameters in the present-value-of-savings valuation method--Two key parameters control the results of this method: the discount rate and the maximum life of the equipment. The current method uses a discount rate linked to prevailing mortgage interest rates, and sets a maximum of seven years on equipment life. These parameters reflect a mortgage market perspective, but other perspectives could be introduced that would expand the possibilities for choosing discount rates and equipment lives. Discount rates used by, for example, the federal government are typically lower than mortgage rates; and the service lives of many types of energy equipment are 15 years or longer. Appendix A shows how changing the discount rate and equipment life can affect the appraised value of the energy improvements. This issue needs to be explored further to establish parameters that will work in a uniform program.

6. Alternatives to escrow arrangements

For the most part, the EEM programs require the primary lender to create an escrow account at closing, from which the energy contractor is paid on completion of the improvements. Some lenders are reluctant to establish escrows, because it can complicate and lengthen the transaction. They normally must inspect the improvements before payment, and can get caught in buyer/contractor disputes.

The workshop discussed the possibility of creating alternatives to escrows as a mechanism of funding the energy improvements. It was suggested, for example, that a third party such as utility, local government agency, or nonprofit organization could be designated to administer the energy improvement funds. This could relieve the lender of some risk and hassle, especially if a warranty program were included.

The secondary mortgage institutions present indicated they would not have a problem with such arrangements. The consensus was that the guidelines for a uniform program should suggest this kind of alternative at the lender's discretion.

The issue of a uniform completion period was also discussed. The consensus was that a uniform program should have a single completion period for the energy improvements, with allowance for weather factors or other extenuating conditions.

A related issue was that of inspecting the energy improvements. Primary lenders must now arrange for this, potentially adding to the perceived "hassle factor" with EEM programs. The consensus

of the workshop is that any local sponsor of an EEM program must provide for adequate quality control. Beyond that, sponsors should seek ways to relieve lenders of inspection requirements, by arranging for third-party inspections and warranties.

7. Private mortgage insurance (PMI)

Conventional loans for more than 80% of the home's value are normally required to carry PMI. Above 90% loan-to-value, the PMI premium increases significantly. The concern raised in the Steering Committee report was that in cases where an EEM added to the base loan such that the loan amount was pushed over the 80% or 90% levels, there would be an additional cost for PMI premiums that would discourage the completion of the deal.

The consensus of the workshop was that this is not a core issue. Mortgage insurance companies do not seem very concerned about it. Few loans would be affected overall. The real issue lies in valuation policies; if the valuation policies described above could be adopted, this issue would not be a problem.

8. Creating an energy efficiency credit in the loan underwriting process

The conventional market EEM programs have had mechanisms that give credit to energy-efficient homes by relaxing the underwriting process so that these homes are easier to qualify for. Fannie Mae has allowed a "stretch" in the standard mortgage payment-to-income ratios of up to two percentage points. Freddie Mac has allowed lenders to credit projected energy savings against the borrower's mortgage payment, which has a similar effect in helping the borrower to qualify for the loan.

The Steering Committee has recommended that a uniform EEM program adopt an energy credit approach similar to Freddie Mac's current approach. The workshop discussed this issue at length, including such points as:

- should such a credit be used alone, or could the Fannie Mae-style ratio stretch be used as a fallback if adequate data was not available?
- should the credit be applied to the mortgage payment or the borrower's income? It has a much greater effect on the ability to qualify if applied to the payment, but others argue that it is more correct to apply it to other income
- the need for home energy rating systems to provide consistent, accurate information as the basis for determining such credits

- o whether credits should be based on average energy cost data for the area or actual billing information for the individual home

This is a key element of a uniform EEM program. It is the mechanism by which energy efficient homes are recognized as more affordable in the mortgage underwriting process. The consensus of the group was that a credit mechanism could be workable, with the ratio stretch option as a backup. What is needed in addition to the uniform mechanism, however, is wider availability of home energy rating systems and better data on actual home energy costs for different areas.

The group also agreed that if an energy credit mechanism is established, it should not be used for homes that are receiving energy retrofits. It should apply only to homes already rated efficient.

9. Clarifying difference between EEMs for new and existing homes

The Steering Committee recommended that the EEM options for new or already-efficient homes be clearly distinguished from those that apply to the retrofit of existing homes. The group agreed that in a uniform program these differences should be made clearer.

10. Using EEM options in refinancings

The steering committee recommended that refinance loans as well as purchase loans be eligible for the EEM programs. This idea was not accepted by the group. Some programs, such as VA, have clearly defined statutory limits on the use of refinance loans. Moreover, it was pointed out that in many cases, equity buildup in the home makes the EEM mechanism unnecessary.

Action Items

At the end of the workshop the group agreed on the following items for further action.

1. A Department of Energy initiative to further the development of a uniform EEM program should be explored. This could include new projects to test a new, uniform program in different regions. This would need broad support and adequate funding. Members of the workshop who favor such an initiative need to express their support to DOE. Workshop participants need to continue to build the consensus that there is value in a uniform EEM program.

2. The workshop participants should act as an ongoing support group for the development of a uniform EEM program, be it under DOE auspices or otherwise.

3. DOE may be able to develop an information effort which would add more information to existing information services such as NATAS and CAREIRS, and which could produce a booklet summarizing the status of these programs, where they are being used, etc.

4. A workshop on home energy rating systems in relation to the EEM programs was suggested. It should investigate, among other things, developing better energy cost and savings data, and better data on the market performance of energy-efficient homes.

APPENDIX A

SETTING NEW PARAMETERS FOR THE EEM VALUATION PROCESS

Below are some illustrations of how using different assumptions on the discount rate and the life of the equipment change the present value of savings from an energy efficiency improvement.

Hypothetical EEM project:

A package of insulation and new heating equipment costs $5,000 installed, and saves $600 per year. The current present value method of appraisal uses a discount rate linked to mortgage interest rates, and a maximum equipment life of seven years. Alternative discount rates and service lives are listed to show the relative effect on appraised value.

Discount Rate	Equipment Life	Present Value
11%	7 years	$2827
10%	7 years	$2921
10%	10 years	$3687
9%	10 years	$3851
8%	10 years	$4026
8%	12 years	$4522
7%	12 years	$4766
7%	15 years	$5464

What is important to note here is the percentage of actual installed cost of the energy equipment that the present value calculation produces. Using the conventional parameters, only $2827 of the $5000 cost is credited to increased value in the home. This means the buyer must pay for the other $2200, out of his pocket, reducing the likelihood that the project will happen. On the other hand, with a 7% discount rate and a 15-year equipment life, the value is close to installed cost. Under these conditions the full cost of the improvements could be added to the appraised value. These parameters are not extreme; they have been used in many life-cycle cost analyses and public policy studies. Another argument for using a lower discount rate is that energy prices tend to increase faster than inflation, thus increasing the value of future savings. A lower discount rate is a way to give credit to future increases in savings.

Using different present value parameters can make a real difference in how effective the EEM programs are. They can allow

some cost-effective energy improvements to receive a valuation near their real cost; this is key to making the underwriting work in the EEM loan process. A uniform EEM program should re-evaluate the parameters used in the present value method of appraising energy improvements.

Senator BINGAMAN. Thank you very much.

Let me call on Mr. Rouda. We are very pleased to have you here, President Elect of the National Association of Realtors. Why do you not go right ahead?

STATEMENT OF HARLEY E. ROUDA, PRESIDENT-ELECT, NATIONAL ASSOCIATION OF REALTORS

Mr. ROUDA. My name is Harley Rouda. I am a realtor from Columbus, Ohio. I will summarize my statement and request that the full testimony be included in the record.

Senator BINGAMAN. It will be included.

Mr. ROUDA. Thank you. Historically, realtors have been very active on energy related issues. Several years ago during the energy crisis in this country, my real estate company distributed free over 100,000 brochures to residents of central Ohio, Columbus. A little booklet like this to show them how they could save energy. How they could make their homes more energy efficient. Not only would it save them money, but it would probably help the resale on their home. This was at a time when we stood in line trying to get gasoline in our automobiles. Our little brochure even explained energy saving ideas from radios and automobiles, microwaves, even to hair dryers.

Realtors in South Carolina have taken the lead in establishing a voluntary energy efficiency rated system in their state using the standards designed by Energy Rated Homes of America, ERHA. Mr. Hughes is a president of that organization.

The program has been approved by Governor Carol A. Campbell, Jr. and by the Governor's Office on Energy and Natural Resources. It is now waiting final approval from the Federal Government—Federal Department of Energy, pardon me, as well as a $250,000 state grant needed for implementation.

There are three phases in this program. Phase one would establish the criteria for the voluntary energy efficient rated system by adopting the standards of ERHA.

Phase two would implement seminars and training sessions for shelter industry professionals who would be involved directly with the rating system.

Phase three would implement a statewide marketing plan to increase public awareness of the new system. The South Carolina Association believes that if each of the existing 800,000 homes in the state were energy efficient, a total of $40 million a year could be saved in energy costs. If that was multiplied throughout our 50 states, we are talking billions of consumer dollars that could be saved, not to mention our energy resources.

Last year, the National Association of Realtors cosponsored, along with the Alliance to Save Energy, a conference on housing affordability and home energy efficiency. That conference provided valuable information to real estate professionals including information on the various home energy efficiency mortgage programs.

The National Association of Realtors continues to provide information to our members on energy efficiency through related realtor publications such as our October 1989 issue of "Real Estate Today." And in this we point out the most efficient energy features

in a home. It gives very explainable and sight-seeing graphics on how you can make a house more energy efficient.

We believe this legislation is consistent with the policy of the National Association of Realtors, which we have adopted, that provides a uniform energy rating system that may help ease the inclusion of energy improvements in mortgages. Success of uniform rating systems should be based on their ability to increase the frequency of efficient mortgage programs as well as their ability to increase the energy awareness of occupants or their owners, renters, buyers or sellers.

With respect to S.1355, we cannot stress enough the need to ensure that under its contract with the U.S. Department of Energy the contractor design a system that will be able to provide the necessary information to allow home buyers to utilize the various energy efficient mortgage programs. We strongly agree that the Secretary of Energy must also consult with representatives of the shelter industry in the development of a standard rating system to ensure a practical and workable rating system that will meet everyone's needs. It is important the public be given an opportunity for comment on any proposed rating systems.

The National Association of Realtors has concern that the data bank on energy efficiency ratings inspections will not protect the privacy of home owners. We feel the information on national trends regarding energy costs would be most useful, but that such a data bank as outlined in S.1355 should be done in a fashion so as to protect the privacy and anonymity of the home owner. The data bank would also recognize each home owner will have a different life style. For instance, the elderly may prefer or need more heat or more air conditioning. The energy rating given to any particular home would be for the home only and would change constantly with the life style as the home accepts and welcomes a new owner.

Any national rating system would have to account for regional variances. For example, a rating system used in Alaska would not be too applicable for Florida or New Mexico. It would be different, so it is important these ratings be carried out by not-for-profit interests to insure that consumers will receive valid information at a very low cost.

Energy audits conducted should, to the standards established by the Department of Energy, should be offered to consumers on a fee for service basis that reflects the actual cost of inspection. It serves no useful purpose to develop energy rating systems that will be expensive to obtain. The groups likely to benefit by lower energy costs such as the poor and elderly may in turn end up paying a proportionally higher percentage of their income towards the ratings. Worse yet, these groups may forgo getting a rating if the costs are too great.

It must also be remembered that energy efficiency is not just an issue when a home is sold. Uniform rating systems should be accessible to everyone. This is especially true in lower income households where a greater percentage of income may go toward energy costs thus affecting housing affordability.

The National Association of Realtors supports providing financing and incentives for energy investments and housing assisted programs. In rehab loan programs, funds used for energy measures

should be treated as grants or deferred interest loans repayable on the sale of the building.

The National Association of Realtors also supports changes in local rent control laws to encourage energy efficiency. Owners should be allowed to include debt service as a pass through for energy efficiencies in rent calculations.

The National Association of Realtors will continue to work with shelter conference and industry representatives, the Federal Government, and Congress to develop voluntary programs which encourage energy efficiency.

The National Association of Realtors looks forward to working with the Subcommittee on Senate 1355. And Mr. Chairman, I thank you for the opportunity to be here.

[The prepared statement of Mr. Rouda follows:]

STATEMENT OF HARLEY E. ROUDA

PRESIDENT-ELECT

NATIONAL ASSOCIATION OF REALTORS®

BEFORE THE SENATE ENERGY AND NATURAL RESOURCES

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

March 27, 1990

Washington, DC

OPENING REMARKS

Thank you, Mr. Chairman, for the opportunity to provide our testimony on S. 1355, to assist private industry in establishing a uniform residential energy efficiency rating system, and for other purposes. My name is Harley E. Rouda, a REALTOR® from Columbus, Ohio, and the President-Elect of the NATIONAL ASSOCIATION OF REALTORS®. The NATIONAL ASSOCIATION OF REALTORS®, comprised of more than 800,000 members in all aspects of the real estate industry, has a keen interest in the issue of home energy efficiency. I would like to take this opportunity to commend you, Mr. Chairman, for your leadership on this issue.

BACKGROUND

Back in the late 1970's the NATIONAL ASSOCIATION OF REALTORS® offered educational materials to our members including The REALTORS® Guide to Residential Energy Efficiency: An Introduction in Using Energy to Sell Homes. That course

and the related course materials were developed, in cooperation with the U.S. Department of Energy, as part of an educational program designed to enable the REALTOR® to understand and use energy efficiency as a selling tool. The program was designed to give REALTORS® the information needed to identify and stress energy conservation features as additional selling points; to recommend possible solutions to energy related obstacles to the sale; and to meet the needs of our clients.

The NATIONAL ASSOCIATION OF REALTORS® supports efforts to educate the home buying and selling public on matters of home energy efficiency. Last year, the NATIONAL ASSOCIATION OF REALTORS® cosponsored, along with the Alliance to Save Energy, a conference on housing affordability and home energy efficiency. That conference provided valuable information to real estate professionals, including information on the various home energy efficiency mortgage programs. We commend Senator Wirth for his leadership of the Alliance to Save Energy and look forward to working with the Alliance in the future.

REALTOR® POSITION

Last spring, the NATIONAL ASSOCIATION OF REALTORS® Board of Directors adopted policy regarding home energy efficiency and housing affordability. During debate of this issue before the Energy, Environment and Development Subcommittee of the REALTORS® Legislative Committee, much attention was focused on legislative proposals before Congress requiring mandatory energy efficiency inspections or audits prior to purchase. There was a strong consensus that any attempt to address the issue of energy efficiency should be done on a voluntary

basis rather than requiring mandatory energy ratings or audits to be done during a real estate transaction in order to hold down costs thereby easing the housing affordability crunch we now find ourselves in.

Consumers, regardless of whether they are buyers, sellers, or current owners, must have low cost, easily available and highly reliable information on energy costs and conservation measures. Although the Subcommittee did not take an official position on specific legislative language, there was strong agreement that if legislation dealing with energy audits was enacted, any language addressing home owner compliance should be voluntary in nature and should include programs to educate the public on energy efficiency. The Subcommittee also expressed a desire to make energy ratings more accessible to the public, identifying the usefulness of a uniform method of energy ratings or audits. Currently, consumers have no uniform method of comparison for ratings systems because there are no standard methods for conducting or communicating energy ratings. One system may measure the energy efficiency of a home on a scale of one to one hundred, while another may rate a home with one to five stars. We feel it is important that consumers have the necessary information to serve as a basis for comparison when looking at the energy rating of a particular home. This can become difficult when the ratings themselves are so different, not only in how the rating is represented, but also in how the rating may be conducted.

At the NATIONAL ASSOCIATION OF REALTORS® 1989 Mid Year Business Meeting held in Washington, DC, the Board of Directors approved the following policies dealing with energy efficiency and housing affordability:

- Relax underwriting guidelines for efficient new homes in the FHA and VA programs;
- Ease the inclusion of energy improvements in mortgages. Each secondary market program has provisions for including costs of energy measures in mortgages, however these policies are all different. The federal government should address this problem and make a major effort to educate the real estate industry and consumers about this option;
- Provide financing and incentives for energy investments in housing assistance programs by including energy efficiency investment incentives in housing finance programs. In rehab loan programs, treat funds used for energy measures as grants or deferred interest loans, repayable on sale of the building. Encourage builders to go beyond minimum building code energy efficiency requirements by offering incentives such as special interest subsidies;
- Foster the development of energy service companies for housing which would provide a complete package of analysis, installation, financing, and maintenance service;
- Make changes in local rent control laws to encourage energy efficiency. Owners should be allowed to include debt service as a pass through for energy efficiency investments in rent calculations;

- o Create tax incentives for housing energy efficiency. Provide tax credits for buildings that meet energy efficiency standards in new and rehabilitated housing. Excuse tax-exempt bonds used for energy efficiency financing from current caps. Set shorter depreciation periods for energy efficient housing. Change the rules governing the use of low income housing credits to encourage energy efficiency in projects using the credit;
- o Increase energy efficiency in rental housing through better metering. Individual metering should be encouraged to promote tenant energy conservation and individually metered buildings should be encouraged to meet the highest cost effective energy efficiency standards;
- o Increase the role of energy suppliers in housing energy efficiency programs. Enlist utilities to administer home energy rating systems. Utilities could conduct ratings at the time of service connection (for new buildings) or account turnover (for existing buildings).

LEGISLATION

The legislation, S. 1355, would require the U.S. Department of Energy to enter into a contract with a qualified residential rating organization to develop a uniform energy rating system. We cannot stress enough, the need to

ensure that, under its contract with the U.S. Department of Energy, the contractor design a system that will be able to provide the necessary information to allow home buyers to utilize the various energy efficient mortgage programs. We strongly agree that the Secretary of Energy must also consult with representatives of the shelter industry in the development of a standard rating program to ensure a practicable and workable rating system that will meet everyone's needs. It is important that the public be given an opportunity for comment on any proposed rating system.

The Residential Energy Efficiency Ratings Act calls for the development of training courses for residential inspectors, real estate agents, appraisers, and loan officers in the use of residential energy efficiency rating methodology. The bill would also require cooperation with State and local energy offices and members of the residential building industry to set standards for the licensing of state and locally authorized residential energy rating organizations. These residential energy rating organizations will provide the training and maintenance of a high level of proficiency among residential inspectors to use these systems. The bill would also require the establishment of a national residential energy efficiency data bank containing the results of all residential energy efficiency rating inspections as outlined in the bill for the purpose of compiling information on energy costs associated with the Nation's housing stock.

The NATIONAL ASSOCIATION OF REALTORS® has concern that the data bank of energy efficiency ratings inspections will not protect the privacy of home owners. We urge that any data bank, which would be useful to compile national

trends, not be used as a means of labeling specific houses which are energy efficient or inefficient by using a given home owner's energy costs as the litmus test. Because each home owner will have a different lifestyle, for instance the elderly may prefer or need more heat or air conditioning, the energy rating given any particular home can only reflect an ideal energy efficient lifestyle which may or may not be the lifestyle of the home owner. We feel that information on national trends regarding energy costs would be useful, but that such a data bank as outlined in S. 1355 should be done in a fashion so as to protect the privacy and anonymity of the home owner.

CONSISTENCY WITH REALTOR® POLICY

We believe the legislation is consistent with policy adopted by the NATIONAL ASSOCIATION OF REALTORS® in that a uniform energy rating system may help ease the inclusion of energy improvements in mortgages. The FHA, and VA have adopted rules allowing buyers to include energy improvements in their mortgages. Both Freddie Mac and Fannie Mae have also developed policies and reporting guidelines applicable to their sellers and services. Each secondary market program has provisions for including costs of energy measures in mortgages, however, these policies are all different, let alone the rating systems used to determine their applicability. For example, the FHA, VA, Fannie Mae and Freddie Mac energy related programs all have different provisions, conditions, and information material. Each agency also has different deadlines by which time the applicant must decide and inform the lender of his decision to include the cost of energy improvements in the loan. Failure to meet these deadlines will delay the loan. Each agency has a different maximum loan limit

and a different dollar amount allowed for financing an energy improvement. Our policy states that the federal government should address this problem and make a major effort to educate the real estate industry and consumers about the energy efficient mortgage programs.

The NATIONAL ASSOCIATION OF REALTORS® supports the concept of a national, uniform energy rating system. However, any national system would have to account for regional variations. A rating system used in Alaska may need to be significantly different from one used in New Mexico, for example. The legislation does not call for the rating methodology outlined in Section 3 to address regional variations and should do so. The success of uniform ratings systems should be based on their ability to increase the frequency of usage of energy efficient mortgage programs, as well as their ability to increase the energy awareness of occupants, whether they be owners or renters, buyers or sellers. Finally, it is important that these ratings be carried out by not-for-profit interests to ensure that consumers will receive valid information at a low cost. In other words, energy audits conducted to the standards established by the Department of Energy should be offered to consumers on a fee for service basis that reflects the actual cost of the inspection. It serves no useful purpose to develop energy ratings systems that will be expensive to obtain. The groups likely to benefit by lower energy costs, such as the poor and elderly, may in turn end up paying a proportionally higher percentage of their income toward the rating. Worse yet, these groups may forgo getting a rating if the costs to do so are great. The NATIONAL ASSOCIATION OF REALTORS® policy recommends a one stop approach to energy service that would provide a complete package of analysis, installation, financing (for retrofitting homes not

currently for sale), and maintenance service.

It must also be remembered that energy efficiency is not just a time of transaction issue. Uniform rating systems should also be accessible to homeowners and tenants, as well as to sellers, buyers, and renters. This is especially true in lower income households where a greater percentage of income may go toward energy costs, thus affecting housing affordability. The NATIONAL ASSOCIATION OF REALTORS® supports providing financing and incentives for energy investments in housing assistance programs by including energy efficiency investment incentives in housing finance programs. In rehab loan programs, funds used for energy measures should be treated as grants or deferred interest loans, repayable on sale of the building. The NATIONAL ASSOCIATION OF REALTORS® also supports changes in local rent control laws to encourage energy efficiency. Owners should be allowed to include debt service as a pass through for energy efficiency investments in rent calculations.

REALTOR® ACTIVITY

Historically, REALTORS® have been proactive on energy related issues. Several years ago, as a result of the energy crisis my own real estate company distributed over 125,000 consumer oriented brochures to residents of Columbus, Ohio. The brochures provided information on home energy efficiency including actions homeowners could take to make their homes more energy efficient.

Attached to my statement is the Boulder Area Board of REALTORS® Home Energy Survey. This Survey has been made available by the Boulder Board as a

convenience for the use of it's members and prospective home purchasers. The Survey includes information about the home on: energy sources for space heating and hot water; energy conservation features such as building insulation, weatherstripping, setback thermostat, storm doors and windows; and utility information including the monthly charges for gas and/or electric.

REALTORS® in South Carolina have taken the lead in establishing a voluntary energy efficiency rating system established in their state. The voluntary rating system that the Association is working to implement adopts the standards designed by Energy Rated Homes of America (ERHA). Although the program has been approved by Governor Carroll A. Campbell, Jr. and by the Governor's Office on Energy and Natural Resources, it is now awaiting final approval from the federal Department of Energy as well as a $250,000 state grant needed for implementation. Under the Association's plan, the energy efficiency system would be implemented in phases over two years. Phase one would establish the criteria for the voluntary energy efficiency rating system by adopting the standards of ERHA. Phase two would implement seminars and training sessions for shelter industry professionals who would be involved directly with the rating system. Phase three would implement a statewide marketing plan to increase public awareness of the new system. The South Carolina Association believes that if each of the existing 800,000 homes in the state were energy efficient, a total of $40 million a year could be saved in energy costs. The South Carolina Association plans to hire a full time energy efficiency consultant to help administer the system.

CONCLUSION

The NATIONAL ASSOCIATION OF REALTORS® supports efforts such as that outlined in S. 1355, the Residential Energy Efficiency Ratings Act, to develop uniform energy rating standards which will benefit consumers and ultimately have the impact of raising public awareness regarding home energy efficiency. The NATIONAL ASSOCIATION OF REALTORS® will continue to work with shelter industry representatives, the federal government and Congress to develop voluntary programs which encourage energy efficiency. The NATIONAL ASSOCIATION OF REALTORS® looks forward to working with this Subcommittee on S. 1355. Thank you.

Senator BUMPERS. Thank you very much.
Cherry?

STATEMENT OF CHERRY DUCKETT, ON BEHALF OF THE NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS

Ms. DUCKETT. Chairman Bumpers, members of the Committee, I am pleased to have the opportunity to appear before you today to discuss this very important legislation. My name is Cherry Duckett. I am Deputy Director of the Arkansas Industrial Development Commission. The Department includes the Arkansas Energy Office. I am a member and secretary of the National Association of State Energy Officials, and today I am testifying on behalf of NASEO.

NASEO strongly supports S. 1355 and applauds Senator Bumpers and Senator Jeffords for recognizing this unmet need and offering, what we feel, is an appropriate and timely solution. This legislation is the promotion of viable home energy rating systems and a uniform means to evaluate these systems. This standardization of energy ratings is critical to the acceptance of energy rating systems in the United States.

Presently, mortgage lenders have a difficult, if not impossible task of weighing the various rating systems that are in use. S. 1355 establishes a mechanism by which a uniform rating system can be formulated in cooperation with the residential shelter industry.

In addition, the Bill provides a means for the implementation of rating systems at the state level in a manner that will complement and support a uniform home energy rating. The creation of a uniform rating system is a primary goal of this Bill. The legislation would lead to improvement in the energy efficiency of this nation's housing stock. It is ironic that homeowners have long benefited from energy efficient ratings of cars and appliances, but do not have a similar opportunity to assess the energy conservation potential of the most costly energy item that they have, their home.

A uniform home energy rating system is a very important component in addressing the overall national goal of affordable housing. I would like to point out some of the following points in this legislation.

It authorizes the U.S. Department of Energy to contract with a qualified non-profit organization to develop a uniform rating system within six months of the passage of the bill. It prescribes the methodology which assures that the basic components of a uniform home energy rating system are present in all approved rating systems. These components include a home inspection ranking of the most cost effective improvements to be made and allows for comparison of the homes expected energy use.

It provides with the standardization of the results of the various home energy rating systems that are presently employed or may be developed in the future.

It requires the contractors selected by the U.S. Department of Energy to develop a course of training.

It gives the states, in cooperation with the residential building industry in that state, authority to set standards for energy rating organizations within the state.

It requires the contractor to maintain a data bank containing the results of all residential energy rating inspections for the purpose of compiling information on energy costs in our housing stock.

Arkansas has been involved in the development and implementation of a home energy rating system since 1986. In addition to several other states, many home energy rating systems have been adopted at the local level, either on a municipal or regional basis. Five of the nine states that have rating systems have adopted the same rating system that is used in Arkansas. The other states have selected systems that they feel better meet their unique needs. This is very appropriate.

This legislation does not propose to establish one rating system, but a uniform way to compare and evaluate the results of the various systems that buyers, mortgage lenders and others will be looking at—the same type of rating information regardless of where the rating was made.

I sincerely believe it would be a mistake to try to dictate to the states that they all use the same system. We would oppose that preemptive approach. What works in one state may not work in another. For instance, in Vermont, the moving force behind their system is the Vermont Housing Finance Authority. In Arkansas, it is the Energy Office. In Wisconsin, it is the Public Service Commission, and in other states, the home building industry has been a primary motivator for the establishment of home energy systems.

The need for a uniform rating system has been recognized in other bills pending before Congress. For instance, S. 247, the State Energy Efficient Programs Improvement Act, which was passed by unanimous consent, clearly permits and encourages state energy offices to use federal energy conservation funds to establish home energy rating systems. This effort would be conducted through the State Energy Conservation Program. We are hopeful that the House version of this Bill, H.R. 711 introduced by Representative Sharp, will move quickly. Overall, NASEO's interest in this legislation is to build upon efforts initiated by the states to create more widespread rating programs. State Energy Office will be expected, in consultation with representatives of the residential shelter industry, to approve the use of rating systems within their states that best fit the needs of the individual state.

I want to take this opportunity to stress that we hope for an early passage of S. 247 by the Congress. This legislation, while promoting energy rating systems, would also increase necessary authorization levels for the federally supported state energy programs so that state energy officials can continue to expand energy efficient efforts. A balanced national energy strategy demands such an approach. DOE can be very helpful in making available the valuable technical resources from Lawrence Berkeley Laboratories, the Solar Energy Research Center, the DOE Conservation R&D Division in Washington, D.C., and other laboratories.

I should stress that Assistant Secretary Davis has refocused DOE's attention on energy efficiency programs, and this effort should be applauded. NASEO welcomes and encourages DOE's participation in the effort.

NASEO opposes, however, the delegation of authority solely to DOE or the National Labs in the establishment of the uniform

rating system. The states have taken the initiative in this effort for the past several years, and almost all accomplishments in this area are directly attributable to the states. Our opposition to this effort being the sole provision of DOE is based on the following: the fact that DOE has shown no initiative in the area until recently; the time it would take for DOE to reach a conclusion on the implementation of a uniform system would likely destroy the momentum that now exists for the effort.

The states have a great deal of experience in this area and have demonstrated that they are capable of putting forward programs that work and there is an inherent fear that a program developed by DOE would be so complicated and so technical that its adoption and use by the states and the shelter industry would be severely restricted.

When the State of Arkansas first became involved in establishing a home energy rating system, we determined that we wanted a system that was voluntary, addressed both old and new houses, was acceptable to the industry, was unbiased and presented an acceptable balance between accuracy and simplicity. This legislation before you today embodies these characteristics and is deserving of your favorable treatment.

I want to reiterate our strong support for S. 1355, and ask for the Committee's approval of the legislation. It is time for energy efficiency to become an integral part of our nation's housing strategy, and this Bill is a critical first step.

NASEO stands ready to assist the Committee in any way we can to promote the legislation. I look forward to answering any questions.

[The prepared statement of Ms. Duckett follows:]

NASEO National Association of State Energy Officials

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TESTIMONY OF

CHERRY DUCKETT

OF THE

NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS

BEFORE THE

SUBCOMMITTEE ON ENERGY REGULATION
AND CONSERVATION

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

MARCH 27, 1990

Telephone 202-639-8749 Telecopy (202) 783-2247 122 C Street, N.W., Suite 810, Washington, D.C. 20001

Chairman Metzenbaum, Subcommittee members, I am pleased to have the opportunity to appear before you today to discuss this very important legislation. My name is Cherry Duckett, Assistant Director of the Arkansas Industrial Development Commission. My Department includes the Arkansas Energy Office. I am a member and the Secretary of the National Association of State Energy Officials (NASEO). Today, I am testifying on behalf of NASEO.

NASEO strongly supports S. 1355 and applauds Senator Bumpers and Senator Jeffords for recognizing this unmet need and offering what we feel is an appropriate and timely solution. The unmet need addressed in this legislation is the promotion of viable home energy rating systems and a uniform means to evaluate various home energy rating systems. This standardization of energy ratings is critical to the acceptance of energy rating systems in the United States. Presently, mortgage lenders have a difficult, if not impossible, task of deciphering the various rating systems that are in use. S. 1355 establishes a mechanism by which a uniform rating system can be formulated in cooperation with the residential shelter industry. In addition, the bill provides a means for the implementation of rating systems at the state level in a manner that will complement and support a uniform home energy rating. The creation of a uniform rating system is the primary goal of this bill. This legislation would lead to improvement in the energy efficiency of this nation's housing stock. It is ironic that home owners have long benefitted from energy efficiency ratings of cars and appliances, but do not have a similar opportunity to assess the energy conservation potential of the most costly energy consuming item, their home. A uniform home energy rating system is a very important component in addressing the overall national goal of affordable housing.

The bill before you today does the following things:

- It authorizes the U.S. Department of Energy to contract with a qualified, non-profit organization to develop a uniform rating system within six months of the passage of the bill.

- It prescribes a methodology which assures that the basic components of a uniform home energy rating system are present in all approved rating systems. These basic components include: (1) home inspection; (2) ranking of the most cost-effective improvements to be made; and (3) allowance for a comparison of a home's expected energy use with other homes, acceptable to financial institutions.

- It provides for the standardization of the results of the various home energy rating systems that are presently employed, or may be developed in the future.

- It requires the contractor selected by the U.S. Department of Energy to develop a course of training for those using the energy rating methodology.

- It gives the states, in cooperation with the residential building industry in that state, to set standards for energy rating organizations within that state.

- It requires the contractor to maintain a national residential energy efficiency data bank containing the results of all residential energy rating inspections for the purpose of compiling information on energy costs in our housing stock.

My home state of Arkansas has been involved in the development and implementation of a home energy rating system since 1986. At least eight other states (Alaska, California, Colorado, Iowa, Mississippi, Rhode Island, Vermont and Wisconsin) have taken steps to implement rating systems. In addition, several home energy rating systems have been adopted at the local level, either on a municipal or a regional basis. Five of the nine states that have rating systems have adopted the same rating system that is used in Arkansas. The other states have selected systems that they feel better meet the unique needs of their states. This is appropriate. This legislation does not propose to establish one rating system, it seeks to establish a uniform way to compare and evaluate the results of the various systems so that buyers, mortgage lenders, and others will be looking at the same type of rating information regardless of where the rating was made.

It would be a mistake to try to dictate to the states that they all use the same system. We would oppose that preemptive approach. What works in one state may not work in another. For instance, in Vermont, the moving force behind their system is the Vermont Housing Finance Agency, in Arkansas it is the Energy Office, in Wisconsin it is the Public Service Commission and in other states the home building industry has been a primary motivator for the establishment of home energy rating systems.

This legislation is strongly supported by the states. The need for uniformity of results of rating systems would allow us to compare "apples and apples." A secondary benefit is that in the future energy efficient mortgages, which would help facilitate the implementation of the recommendations of the home energy ratings, would become widespread.

This need for uniform rating systems has been recognized in other bills pending before Congress. For instance, S. 247, the "State Energy Efficiency Programs Improvement Act", which was passed by unanimous consent on January 25, 1990, clearly permits and encourages state energy offices to use federal energy conservation funds to establish home energy rating

systems. This effort would be conducted through the State Energy Conservation Program ("SECP"). We are hopeful that the House version of this bill (H.R. 711), introduced by Representative Sharp, will move quickly. Legislation addressing global climate change, specifically S. 324 and H.R. 1078, contain language supporting the concept offered by the bill before you today. In addition, at the recent meeting of the National Association of Regulatory Utility Commissioners ("NARUC") the organization passed a resolution in support of the establishment of a national energy rating system. A conference sponsored by the Alliance to Save Energy last fall, "Making Housing More Affordable Through Energy Efficiency", resulted in recommendations for a national policy on home energy rating systems that is very consistent with the provisions of S. 1355.

Overall, NASEO's interest in this legislation is to build upon efforts initiated by the states to create more widespread ratings programs.

States will have an important role to play in the development of this uniform rating adaptation of the various rating systems that are in place or will be employed. The U.S. Department of Housing and Urban Development has stated that field offices are expected to recognize energy rating systems in their lending practices if the system is approved by the state energy office and if the rating is performed by an unbiased, third party. State energy offices will be expected, in consultation with representatives of the residential shelter industry, to approve the use of rating systems within their states that best fit the needs of the individual states. State energy offices will be the primary vehicle to initiate the home energy rating effort, which would be encouraged in S. 247/H.R. 711. It will be the responsibility of the state energy office, or its designee, to insure that the approved rating systems contain adequate provisions for quality control in the ratings. Also, the states will play an important role in assuring that the rating systems within their states provide the information necessary to participate in the building of a national housing data bank on energy use.

I want to take this opportunity to stress that we hope for early passage of S. 247 by the Congress. This legislation, while promoting energy rating systems, would also increase necessary authorization levels for the federally-supported state energy programs so that state energy offices can continue to expand energy efficiency efforts. A balanced national energy strategy demands such an approach.

DOE can be very helpful in making available the valuable technical resources from Lawrence Berkeley Laboratories, the Solar Energy Research Center, the DOE Conservation R&D division in Washington, D.C., and other laboratories. I should stress that Assistant Secretary Davis has refocussed DOE's attention on energy efficiency programs, and this effort should

be applauded. NASEO welcomes and encourages DOE's participation in this effort.

NASEO opposes, however, the delegation of authority solely to DOE or the national labs in the establishment of the uniform rating system. The states have taken the initiative in this effort for the past several years and almost all accomplishments in this area are directly attributable to the states. Our opposition to this effort being the sole province of DOE is based on: (1) the fact that DOE has shown no initiative in this area until recently; (2) the time it would take for DOE to reach a conclusion on the implementation of a uniform system would likely destroy the momentum that now exists for this effort; (3) states have a great deal of experience in this area and have demonstrated that they are capable of putting forward programs that work; and (4) there is an inherent fear that a program developed by DOE would be so complicated and technical that its adoption and use by the states and the shelter industry would be severely restricted.

When the State of Arkansas first became involved in establishing a home energy rating system we determined that we wanted a system that was voluntary, addressed both old and new houses, was acceptable to the industry, was unbiased and presented an acceptable balance between accuracy and simplicity. The legislation before you today embodies these characteristics and is deserving of your favorable treatment.

I want to reiterate our strong support for S. 1355 and ask for the Committee's approval of this legislation. It is time for energy efficiency to become an integral part of our nation's housing strategy and this bill is a critical first step. NASEO stands ready to assist the Committee in any way we can to promote this legislation.

I look forward to answering your questions.

Senator BUMPERS. Thank you, Cherry.

I want to say, incidentally, that one of the reasons that we do not have any attendance at this meeting this morning is not because of the makeup of the panel, but because this is Eisenhower's 100th birthday, and there is a big ceremony and the majority leader has issued orders, I guess you would say, for a sort of mandatory appearance.

Mr. Folsom?

STATEMENT OF BENNY W. FOLSOM, ADMINISTRATOR, GOOD CENTS PROGRAM

Mr. FOLSOM. I appreciate the opportunity to express our position. My name is Benny Folsom and I am presently serving as program administrator for the Good Cents Program which is a nationally marketed program that deals with energy efficiency ratings in homes.

We do have some concerns about the Bill. The basic concept as it is presently written is to establish a national rating system, in terms of the mandated policy aspects and the overall coordination of these activities between the contractor who is elected to do this and the other agencies such as the energy efficient mortgage aspects.

An energy efficient home rating system, ideally, we feel as a long term goal, should increase the stock of energy efficient housing at affordable and justifiable prices. It can be administered from a national level, I guess, but it should take into consideration the regional and local level administration as well. Organizations should be licensed to insure consistency throughout program areas.

The programs should be built on standards. We prefer the term standards, also, rather than necessarily a rating system or specifications. We call them standards based on, among other things, a local code that might be in place, such as a state energy code that might already be in existence. Area construction practices, which has been mentioned already, varies from one side of the country to the other. The attitudinal information gathered from the various participants in these programs, such as the builders, the realtors, the lenders, the home designers.

And also, an incredibly important aspect is the local area economic factors. The thermal characteristics rated better than, say, in the area of 20 percent or higher, than say, the existing code requirements would put into place. Equipment efficiencies that are equal to the levels of an act that is going to be coming into effect in a couple of years that will definitely raise efficiency levels of equipment going into these homes and make them more efficient. The program should be supported by materials developed specifically for that, such as software, computer software, that is user friendly for several levels of user friendliness that will accurately determine what the energy cost and relate that information to the economics of life cycle costing in that home.

The program management aspects—something that is flexible, but remains consistent to meet the dynamic changes occurring in the building market. Something that is acceptable to all shelter industry participants. And what I have just described to you sound

similarly, I think, to S. 1355 to actually, what I have just described is a profile of programs that are currently in place across the country.

It has long been considered a very important aspect of the utility industry to encourage energy efficiency. The industry initiatives in this area were to reduce the overall growth and demand, control and manage the utility loads and to very thoroughly encourage the wise and efficient use of energy.

Many research organizations in the industry have taken this as a task and have put a lot of major effort in promoting energy efficiency and doing research as far as the end use technology is available, and what could be developed to support this. This involved energy efficient construction practices for new homes, weatherization of existing homes, such as adding higher levels of insulation and improved equipment efficiencies, and the advancement of consumer awareness.

Our program, called the Good Cents Program, began in the mid-seventies as a response to the energy crisis which was mentioned earlier which occurred and all of a sudden we discovered all of our cars were too large and inefficient, we were keeping ourselves too comfortable in our homes. Something that touched the lives of probably everyone in this room. So the program was organized in the Southeast, but later on it was marketed across the country. Currently 270 utilities in 25 states utilize this program. The profiles of those utilities range anywhere from the large investor owned utilities to municipal systems to electric membership cooperatives and public utility districts.

These utilities use this program to promote energy efficient construction. Our home standards are developed on a local basis which we feel is a very important and significant part of the program. They always exceed what we call a baseline home, which is basically the current practice of what we see occurring in the market place. We do a type of an inventory survey to determine what methods are being used in a particular area to build a house and try to improve on that. We factor in the local attitudes of builders and developers and to see exactly what the area would allow in terms of economic improvements. These homes require less energy to heat and cool. At the same time, they place less demand on the utilities peak. And we conducted a survey just late last year among only our client group. To this date, over 300,000 homes have been certified under our program. The homes average a 2kw reduction. In some areas it is more, in some areas it is just a little bit less.

Given the numbers of participants in our program, this could equate to about 560 megawatts of load that have been reduced at that customer's meter. This is roughly equivalent, after you figure losses into effect, the equivalent of one very large power plant that has not had to be built.

We establish our homes around the guideline that it has to improve the performance of an average constructed home by at least 20 percent. In some areas, some of our homes improve that up to say, 50 percent.

Any program like this has to provide tangible benefits to all participants. Consumers obviously benefit through energy and cost savings. They wind up with a home that is more comfortable. Their

energy bills are more manageable, they are more predictable. These homes are more valuable when it comes to resale. There are more, and in many cases with the advent of consumer awareness and particularly among the appraisers and real estate people and the mortgage industries, it does become easier for people to qualify for mortgages and in most cases can afford a more expensive home then they originally planned by planning in this energy efficiency aspect.

The builders receive benefits from the program, too. They are building houses that are more valuable. They find that their returns are higher on these types of homes. They also find these homes sell faster than a regular home. And in most cases, they average only adding maybe a dollar per square foot to the cost of that home to raise them to this level of efficiency.

The positive image a builder receives by being able to tell his customers, I build energy efficient homes, is also of benefit to him and his business.

The utilities, as I mentioned before, obviously benefit. They receive the reduction in load growth. It eases demand for their new capacity, and it also helps them improve their public image because, finally they have gotten to the point where they can tell the consumer that we have a valuable service to offer you. We can guide you in selecting the energy efficient aspects of your home. And this is an area that I have to admit the utilities have had a tough time with for a long time, and that is getting into a positive public position.

The general public, we feel, gains overall because everyone benefits if energy is used more efficiently. And overall, it does improve the housing stock. This benefits present buyers and future home buyers.

To generally summarize our comments on the Bill, concerning the administration of a rating system, it is a monumental undertaking. Our track record has its high and low points also. We started this—everything that we have to present today has been on the basis of experience related situations. Managing the program is a monumental task. It involves a lot more issues than simply training people to administer various aspects of it. Simply memorizing a concept will not do. A program has to have as its basis a solid foundation in which to present this to all participants in the program and a sense of advocacy has to be developed in order to make it successful.

The licensing aspect presents a concern. The residential energy data bank, while this is a very encouraging aspect of the Bill, there is a great deal of energy information available now on the residential housing industry. Our concern there is that this information will not be coordinated into whatever system is put into place. I think the integration of this data into it would incredibly increase the value of such a data bank, and at the same time not insist on conformity of data of a certain type.

As far as the energy efficiency of the residential contractor, as I mentioned earlier, the private sector has been funding and implementing these programs for over a dozen years now. And we have a strong interest in that experience being factored into this process. In fact, over the past 12 years the number of these programs have

grown from 134 to roughly over 1,300 programs. Over that period of time, EEI estimates that these programs have postponed the need for 21,000 megawatts of extra energy.

Work is already in progress to coordinate these programs with other programs such as energy-efficient mortgages. The rating methodology is something we are concerned about. The methodology has to be based on information and experience that has gone on before plus modifying to meet the requirements of a policy. We would like to suggest that a thorough job of market segmentation be done in the residential market to find out. There are so many varying characteristics between the single-family, multi-family, new home, existing home.

The program has to be locally responsive. It has to recognize certain performance factors such as weather, the attitudinal aspects I mentioned before—what is a builder willing to add in terms of extra cost to his homes to accommodate this, realtors' concerns—realtors do not want more bureaucratic processes to slow up the mortgage process. They have made great strides over the past years to reduce the closing time on a home from 60 days down to, in some cases, 10 to 15 days and, in some rare cases, even less than that. So no program should impact the progress that has already been made.

I keep bringing up the concept of advocacy. Our programs simply would not have worked had we not had a strong advocacy from every member of the shelter industry. Even though this is a utility-sponsored program, we have been able to improve benefits to everyone who participates in an energy-efficiency certification program.

With a final comment, I guess I would have to say that we are very supportive of national policy in regard to energy efficiency homes. However, we would suggest that this turn into a very cohesive effort, utilize experience on the parts of the people who have been participating in programs like this for a number of years, and we are very, very willing to cooperate with you in sharing ideas and experience on any programs that are developed in the future.

The bottom line is let us not reinvent the wheel in the process of putting something like this together.

I appreciate the opportunity to make our position known, and I would be happy to answer any questions.

[The prepared statement of Mr. Folsom follows:]

TESTIMONY

BENNY W. FOLSOM

Good Cents Program Administrator and (Interim) Director

Southern Electric International

Before the

UNITED STATES SENATE

ENERGY AND NATURAL RESOURCES COMMITTEE

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

On S.1355

(Residential Energy Efficiency Rating Act)

March 27, 1990

DIRECT TESTIMONY

OF

BENNY W. FOLSOM

My name is Benny W. Folsom. My business address is 64 Perimeter Center East, Atlanta, Georgia 30346.

Presently, I am serving as (Interim) Good Cents Program Director and Good Cents Program Administrator for Southern Electric International. SEI is a wholly owned marketing/consulting subsidiary of The Southern Company, a holding company that also owns Southern Company Services, Inc., Alabama Power, Georgia Power, Gulf Power, Mississippi Power, and Savannah Electric and Power Company.

I have been asked to present our position on programs that promote energy efficiency and conservation by encouraging builders to construct and offer energy efficient homes; and I would like to discuss the possible impact on such programs by a congressionally mandated act, as described in S. 1355.

Utility Conservation Overview

The electric industry has undertaken a number of efforts to reduce growth in demand for electric power, to help control and manage utility loads, and to encourage the wise and efficient use of energy. The efficient use of electric energy is vitally important to the industry's efforts to provide an adequate and affordable supply of electricity, and to postpone or reduce the need for costly new generation facilities. Through programs conducted by the Electric Power Research Institute and others, the industry has made substantial expenditures on research to develop more efficient ways to produce electric energy and to use such energy in high-efficiency end-use devices. One major effort has been the promotion of energy efficiency in the residential sector by various approaches, including encouragement of construction of energy efficient homes in the new-home market; promotion of weatherization and upgrading of existing homes through the retrofitting of high-efficiency heating and cooling appliances and improved insulation systems; and advancement of consumer awareness of the benefits of energy efficiency.

Good Cents Home Program

The Good Cents Home program is the largest of these various efforts. The Good Cents Home program was developed in the mid-1970's; and is franchised by SEI to electric utilities across the country. Presently, there are over 270 electric utilities participating in the program. These include investor-owned utilities as well as rural cooperatives and municipal systems located in 25 states. (See Exhibits "A" and "B")

The Good Cents Home program is a comprehensive marketing program utilized by electric utilities that want to encourage the construction of energy efficient homes in their service territories. Through the Good Cents Home program, the utilities promote the use of construction standards that exceed local building code requirements. Homes built to such standards have a tighter, more efficient thermal envelope and thus require less energy to heat and cool. In addition, homes built to the Good Cents standards place less peak demand on the utility's system because the home's peak energy load is less.

According to a survey completed in late 1989 of utilities participating in the Good Cents program, more than 300,000 homes have been built to Good Cents standards. The utilities reported that the (weighted) average home had a

summer peak demand reduction of 1.86 KW. This equates to 558 MWs of load reduced at the meter, or the equivalent of avoiding the construction of a 700 MW generating unit when you account for reserves and losses. At $500 per KW that amounts to $3.5 billion in avoided capacity. In addition, a Good Cents Home generally uses 20% less total energy. Assuming an average consumption of 10,000 KwH per home per year, the total annual energy savings of the Good Cents program is 600 million KwH. At a national average of $.08/KwH, the consumers' total dollar savings from the Good Cents programs was $48 million.

There are numerous beneficiaries of these programs, including consumers who buy homes built to the standards of the Good Cents program or of similar programs; home builders and developers who participate in these programs; electric utilities that sponsor the programs; and, of course, the general public.

Consumers who buy such energy efficient homes, enjoy a higher level of energy and cost savings. In addition, they enjoy more comfortable homes due to the improved insulation qualities of a Good Cents Home for example, and they get a more valuable home in terms of resale or market potential. The benefits to builders and developers include access to the utility's support and expertise in developing energy-efficient designs and construction

methods, various financial incentives through advertising and equipment incentives, and good-will or positive image through association with energy efficiency efforts. Of course, builders and developers also want to make all the sales they can and these programs help in that regard. For example, while it costs a builder, on average, about an additional dollar per square foot to reach the Good Cents standards, we estimate that the provision of additional insulation, improved windows, and other features of the program, has helped bring around $500 million in additional sales to the building industry since the mid-1970's. Electric utilities that participate in such energy efficiency programs benefit from better management of load growth. As I noted, the Good Cents Home program alone is estimated to have delayed the need to build the equivalent of 700 MW of plant capacity since the mid-1970's.

The general public benefits in at least two regards from such programs. There are, first, the gains from the improved efficiency in the use of energy and the resulting energy conservation benefits. In addition, such programs encourage the creation of an improvement in the supply of energy efficient and conservation-concerned housing stock, which benefits both present buyers and future home purchasers.

GENERAL SUMMARY OF COMMENTS

S. 1355

(Residential Energy Efficiency Ratings Act)

Specific Provisions and SEI Comments

Sec. 3(c)(A) Administration of Rating System

The residential energy efficiency rating contractor will develop a course of instruction for training residential inspectors, realtors, appraisers and loan officers in the use of the residential energy efficiency rating methodology.

Although this provision seems encouraging, it does not fully delineate the complexity of administering the process required for certification of an energy efficient home. The successful implementation of any home energy rating system requires the application of a variety of well-developed skills, usually acquired through comprehensive training in subjects related to the building construction industry, in conjunction with practical decision-making techniques.

This training must incorporate the needs and interest of the specific trainee groups (such as auditors/inspectors).

In some cases, such as with real estate appraisers, this "skills development" should be incorporated into their overall training process.

Sec. 3(c)(2) **Residential Energy Efficiency Data Bank**

The residential energy efficiency rating contractor will maintain a national residential energy efficiency data bank containing the results of all residential energy efficiency rating inspections using the approved methodology.

Existing energy rating programs maintain data reporting and retrieval systems. These systems are generally upgraded as computerized reporting capabilities are improved. This data, along with data collected by other highly-qualified energy-related and housing industry-related groups (such as the Energy Information Administration's Residential Energy Consumption Survey, National Association of Home Builders' annual housing survey) point to the possibility of a monumental undertaking and a duplication of effort by one National energy rating system. Integration of existing information, not forced conformity, will add more value.

Sec. 3(a) **Contract with Residential Energy Efficiency Rating Contractor**

In General. Not later than 6 months after the date of enactment of this Act, the Secretary of Energy shall enter into a contract with a qualified residential energy efficiency rating organization to develop a uniform residential energy efficiency rating system (as described in subsection (b)) within 2 years after the date of enactment of this Act and to administer the system (as described in subsection (c)) for a period of 4 years following the date of contract.

To date, the majority of conservation-oriented energy rating systems have been funded, developed, and implemented by the private sector, incorporating public policy-oriented objectives.

Between 1977 and 1988, the number of electric utility sponsored energy efficiency programs has grown from 134 to almost 1300. Annually, electric utilities now spend about $1 billion on programs such as improved insulation standards for new homes, home-energy audits, and rebates on energy-efficient appliances. The Edison Electric Institute, which tracks such matters for the industry, calculates that such programs have delayed (postponed) the need for 21,000 megawatts since 1977 -- that is the equivalent of 21 large generating plants. It is also

estimated by EEI that by the year 2000 such programs can delay an additional 45,000 megawatts.

Tangible benefits from these programs flow to homebuyers, homeowners, builders and suppliers; the utilities who sponsor these programs that promote energy efficient home construction delay costly capital expenditures for the otherwise required additional generation capacity.

Other activities in progress coordinated by these groups include mortgage qualifying assistance. A recent Memorandum of Understanding was entered into by the Seattle Regional Office of the U.S. Department of Housing and Urban Development, Bonneville Power Administration, and the Northwest Power Planning Council. The purpose of this M.O.A. is to enhance affordability in the provision of energy efficient housing in the states of Washington, Oregon, and Idaho and to promote the Joint Venture for Affordable Housing, the Northwest Energy Code, and the Super Good Cents Programs. A copy of this M.O.A. is included as Exhibit "C".

A large part of the methodology and products being utilized in these private-funded programs has been developed and refined by industry experts over the years to fine tune the process of certifying (or rating) that a home's energy efficiency characteristics are optimized to

provide conservation benefits within a specific locality. This process has been proven necessary due to the regional and local variations in housing practices, climate conditions, and energy supply and demand. Our experience has indicated that a program can produce no long-term tangible conservation benefits without considering all of these conditions at levels far below a "national" code level. "National" codes can also tend to crystallize fuel choice biases that impose severe inequity and hardship at the local level.

With this in mind:

1) What is meant by a national uniform residential energy rating system?
2) Can it be more comprehensive and cost-effective in ensuring housing efficiency than model energy codes such as the Northwest Energy Code or the one developed by CABO?
3) Will this system truly be as responsive to regional and local building practices, regional FHA loan variables?
4) What indicates that a federally mandated, taxpayer supported program is called for to "continue" voluntary, "private-industry" supported work clearly in congruence with D.O.E. and H.U.D. philosophy?
5) For what reasons should a contractor chosen to provide technical assistance to a program of this type be

eliminated by qualification as "non-profit" as described in Section 501(c)(3) of the Internal Revenue Service Code?

6) Is this the most desirable route to affordable housing?

Sec. 3(b) **Rating Methodology**

The rating system will provide a means of estimating the monthly cost of supplying energy to each residence. It will be based on a scale that accurately reflects the energy costs associated with each aspect of the structure and item of equipment to be inspected.

At this point, S.1355 is not clear in terms of this methodology. Also, does it segment the residential market by new homes, existing homes, single-family, multi-family? How will the system "accurately" determine the energy costs? The technology to accomplish this work is available, but requires technical and judgmental ability to obtain and interpret results. What are we actually maximizing? The lack of clearly stated public policy?

CONCLUSION

We are concerned that, as written, S.1355 does not in itself reflect a truly comprehensive set of considerations that call for the development and implementation of a federally-mandated uniform residential energy efficiency rating system. It is unclear how imposing a uniform system would provide more cost-effective benefits than the energy conservation programs currently in use across the nation.

While we appear to be in disagreement with certain sections of this proposed bill, we are very supportive of a cohesive situation in which energy efficient residential housing is coordinated at the local level with other programs such as an Energy Efficient Mortgage Program. Defining that relationship in specifics can be difficult. We strongly support, therefore, policies which encourage research and development for energy conservation in residential buildings, and which sponsor cooperation among all agencies, institutions, and industries who are collectively members of a team who serve to keep the "American Dream of Home Ownership" constantly moving forward.

GOOD CENTS FACT SHEET

MARCH 1990

* 44 major utility accounts
* Three Hundred Thousand Good Cents Homes nationwide
* 275 participating Good Cents Utilities
* Good Cents Utilities serve over 19 million residential customers located in 26 states.
* An estimated 60-70 million people are directly exposed to Good Cents advertising each year. This does not include the spill over effect to adjoining market areas.

EXHIBIT B

GOOD ÇENTS UTILITIES

1. Gulf Power Company
2. Georgia Power Company
3. Alabama Power Company
4. Mississippi Power Company
5. Lee County Cooperative
6. Wisconsin Public Service
7. Central Power and Light
8. Public Service Company of Oklahoma
9. Metropolitan Edison Company/GPU
10. Pennsylvania Electric Company/GPU
11. Jersey Central Power and Light Co.
12. Portland General Electric Company
13. Pacific Power and Light Company/BPA
14. Bonneville Power Administration (105)
15. Idaho Power Company
16. Gulf States Utilities Company
17. Orange and Rockland Utilities, Inc.
18. Central Maine Power Company
19. Madison Gas & Electric
20. Duncan Power and Light
21. Alabama Electric Cooperative (16)
22. Dixie Electric Cooperative
23. Commonwealth Edison Company
24. South Carolina Electric and Gas
25. Santee Cooper (17)
26. Lower Colorado River Authority (44)
27. Stillwater Utilities Authority
28. Utah Power and Light/BPA
29. Snohomish County PUD/BPA
30. Tacoma/BPA
31. Eugene Water and Electric Board/BPA
32. Atlantic Electric
33. Washington Water Power/BPA
34. Montana Power Company
35. Puget Power Company/BPA
36. Houston Lighting & Power Company
37. United Illuminating
38. City of College Station
39. Sierra Pacific Power Company
40. South Mississippi Electric Power Association (10)
41. Savannah Electric & Power Company
42. Oglethorpe Power Corporation (39)
43. Texas-New Mexico Power Company
44. Arizona Public Service

1/19/90

EXHIBIT C

U.S. Department of Housing and Urban Development

Seattle Office, Region X
Arcade Plaza Building
1321 Second Avenue
Seattle, Washington 98101-2058

MEMORANDUM OF UNDERSTANDING

JOINT VENTURE FOR AFFORDABLE HOUSING,
NORTHWEST ENERGY CODE AND SUPER GOOD CENTS PROGRAMS

This Memorandum is entered into among the Seattle Regional Office of the U.S. Department of Housing and Urban Development (HUD), Bonneville Power Administration (BPA), and the Northwest Power Planning Council (NWPPC). As a result of this Memorandum, HUD will recognize, as eligible purchase funds, the financial assistance (FA) payments made to eligible buyers as part of the BPA's Northwest (NW) Energy Code and Super Good Cents Programs. This action will reduce the buyer cash requirements in purchasing HUD insured homes resulting in an increase in housing opportunities and resources for qualified home buyers. The program is available to eligible home buyers according to the parameters set forth below:

1. The parties to this Memorandum are undertaking this Joint Venture for Affordable Housing in order to demonstrate the effectiveness of HUD regulatory reform in making newly constructed homes more affordable to home buyers. This program shall hereinafter be referred to as "JVAH."

2. The NWPPC has included in its Regional Power Plan Model Conservation Standards which BPA is implementing in two programs: (a) the Northwest Energy Code Program, which supports local governments' adoption of the NW Energy Code; and (b) the Super Good Cents program which encourages the construction of very efficient new homes to the same high standards. To ensure that residences built to the NWPPC's Model Conservation Standards are economically feasible to the home buyer, each program provides FA payments to the builder or buyer. Depending on the program and climate zone, these payments may range up to $3,000.

It is the intent of all three parties to this Memorandum that its purpose shall be to enhance affordability in the provision of energy efficient housing in the States of Washington, Oregon, and Idaho, and to promote the JVAH, the NW Energy Code, and the Super Good Cents Programs.

HUD, the BPA, and the NWPPC agree as follows:

a. HUD will not reduce the value of a property for appraisal purposes where an FA payment is made to a builder and/or buyer for a property built to the NW Energy Code standards. This includes FA payments made by public or private utilities or NW Energy Code jurisdictions. Private utilities may use a different name than "Super Good Cents" for their participation in the NW Energy Code program.

b. HUD interprets its statutory obligations as allowing recognition only of the FA payments made to a buyer by public utility districts, municipal utilities, and/or local governments.

c. Where the buyer and builder choose to participate in this JVAH, FA payments shall be paid directly in the name of the buyer. The FA payment may not be paid to the builder and then passed onto the buyer. However, a payment made jointly in the name of the builder and buyer is acceptable. Proper safeguards may be taken for returning the funds to the builder and/or payee in the event a purchase transaction is not completed.

d. The Public Utility Districts, Municipal Utilities, and local governments will provide to each lender a NW Energy Code/Super Good Cents Certificate identifying the buyer/builder name, property address, and amount of the FA payment.

e. HUD and the BPA shall prepare a summary of this Memorandum and distribute it to their respective program clientele, (e.g., HUD - mortgagees; BPA - public utility districts, municipal utilities, and local governments.) The NWPPC will obtain HUD concurrence on all proposed public relations releases to their program participants regarding this Memorandum of Understanding.

f. Nothing in this Memorandum limits or dictates any aspect of the operation of the NW Energy Code or Super Good Cents programs where the parties do not seek HUD insured financing or where the parties do not choose to participate in the JVAH.

The effective date of this Memorandum shall be the date HUD signs below, and shall remain in full force and effect until terminated by the mutual consent of the parties to this Memorandum, or on December 31, 1995, whichever occurs first.

Bonneville Power Administration

By: Sue F. Hickey
Sue F. Hickey
Assistant Administrator
Office of Energy Resources

Date: 11-9-89

Northwest Power Planning Council

By:
Tom Trulove, Chairman

Date: 12-6-89

U.S. Department of Housing and
Urban Development

By:
William Y. Nishimura
Regional Administrator-
Regional Housing Commissioner

Date: 11/8/89

Senator BUMPERS. Thank you, Mr. Folsom.

Mr. Stafford, you are our next witness, and if there is any way you can summarize your testimony, it would be most appreciated.

STATEMENT OF DON STAFFORD, ON BEHALF OF THE NATIONAL ASSOCIATION OF HOME BUILDERS

Mr. STAFFORD. All right, sir. Thank you, Mr. Chairman.

My name is Don Stafford and I am from Charlotte, North Carolina, and I am currently serving as vice chairman of the National Home Builders Association's Energy Committee.

The housing sector has played a large role in energy conservation since the seventies with new homes showing steady improvement in energy efficiency. And NAHB has played a role in this success story. NAHB and the National Research Center, a not-for-profit subsidiary corporation of NAHB, have played a major role in research and development of energy saving technologies and products for the home.

For 30 years, NAHB and the research center have been in the forefront of assisting the building industry. In the late 1970's we developed the NAHB Thermal Performance Guidelines for use by builders. We presented these to the Federal National Mortgage Association, Fannie Mae, and the Federal Home Loan Mortgage Corporation, and they agreed to provide more liberalized underwriting criteria. Our policy is that we would pursue industry efforts to insure that all housing continues to show significant improvements over the coming decades.

NAHB believes that the nation needs to focus on a comprehensive policy or strategy to address energy issues. And we emphasized this point when we submitted our recommendations regarding the National Energy Strategy to the Department of Energy. NAHB stated that the focus of the National Energy Strategy should be on the interrelationship of environmental quality, economic competitiveness and energy security. NAHB believes that the industry should accept the responsibility of trying to achieve greater energy efficiency in the residential sector.

Regarding improvements in the building sector, the strategy should recognize and support the fact that energy efficiency improvements in housing can and should be accomplished largely by the private sector in a partnership creating cooperation among builders, product suppliers, utilities, realtors, appraisers, mortgage lending institutions, and by properly and fairly recognizing national buyer and lender benefits of voluntary programs.

Programs that encourage and support higher debt to income ratio loans based on energy efficiency should lead to a wider penetration of more energy efficient housing stock. In addition, not only will a voluntary program reach a greater level of acceptance than a mandatory approach, but it will also establish an education system and an ongoing network for continual transfer of newly developed information.

NAHB recommends a comprehensive plan that has three points. One is a national voluntary environmental and energy efficient housing program. And this has eight elements, three of which I

would like to mention. One is creating a broadly based public/private sector industry advisory board. Another is establishing rigorous voluntary performance guidelines. And thirdly, training and registering builders.

The NAHB Energy Committee has set a target under this program for reducing the energy usage of a residential house by 50 percent over a 1980 average, new homes by the year 2000.

The second approach is a technology transfer program for the energy retrofit of existing buildings. We feel Congress should also recognize the need for a technology transfer program for the energy retrofit of existing buildings and link it to the development of uniform energy efficient mortgage programs to provide financial incentives and positive market signals.

A third approach is an advanced housing technology program for the adoption of quality energy efficient and cost effective technologies into the home building industry. We feel that Congress in the National Energy Strategy should support an advanced technology program that will accelerate and advance the adaption of quality energy efficient and cost effective technologies into the home building industry.

I would like to make several observations about energy rating systems. NAHB could support a voluntary energy rating system to the extent that its existence contributed to improvements in energy efficiency and housing. The goal should be to encourage energy efficiency upgrades in existing housing and to make new construction more efficient. Using a rating program merely as a consumer shopping comparison tool may have negative effects of devaluing the less efficient housing and leaving the less efficient housing to those who could least afford the higher energy cost.

The only way to prevent that from happening is to have a comprehensive market driven program with financial incentives and contributions from those who would derive benefits from the program. One means of providing incentives is through a uniform energy efficiency mortgage. An energy efficient mortgage does two things: it allows for a stretch ratio, and increased debt to income ratio, for the purchase of a house that already is energy efficient; and secondly, it allows the cost of energy efficient improvements to non-energy efficient homes to be wrapped up into the mortgage at time of purchase.

Continued efforts need to be made to remove barriers to the use of energy efficient mortgages to simplify and make uniform the procedures and applications for this program, and actively market it to lenders, realtors and home buyers.

Senate Bill 1355 is a bill to assist private industry in establishing a uniform residential energy efficiency rating system and for other purposes within the context of our recommendations for a comprehensive plan for the residential sector, and our position on energy rating systems in general, we have 11 concerns regarding Bill 1335. Let me highlight five of those quickly.

Without fitting into a comprehensive program, energy ratings systems may shift the demand to more efficient housing devaluing the less efficient housing which we left to those who could least afford the higher energy cost. Secondly, we are concerned about potential liability associated with representation made as to energy

efficiency. Thirdly, the bill sets up a potential monopoly for one contractor for a period of up to six years. It also sets up the potential for conflict of interests. A single firm will develop a uniform energy efficiency rating system, administer it, and write the regulations and guidelines that govern who enters the industry. The Bill does not consider the potential interrelationship of energy efficiency with indoor air quality. Lastly, energy efficient mortgages should be a primary component for achieving energy efficiency. These mortgages let primary lenders use easier qualifying rules for buyers of energy efficient homes and allows buyers of existing homes to finance energy improvements in the purchase mortgages.

In conclusion, Mr. Chairman, Senate Bill 1355, which seeks to promote energy efficiency in housing is but one piece of the puzzle. Acting on individual pieces without a full recognition of all the components will hinder full development of a comprehensive plan. To complete the puzzle, it is necessary to consider not only energy efficiency ratings, but also energy efficiency mortgages, warranties, the roles of public utilities and education and training in a comprehensive manner. We strongly support energy efficiency and believe that the desired results can be achieved through a comprehensive voluntary program. NAHB believes that the leadership and expertise exists within the industry and the Department of Energy to develop a comprehensive approach that will provide more significant benefits through a better utilization of joint resources. Industry and DOE have already begun a collaborative process to develop a full public/private sector partnership. This process will result in a comprehensive mechanism that will enhance energy efficiency and housing affordability. NAHB has already allocated funds to develop the program I mentioned. Work on the specifics are underway now and we would be glad to provide any details about our program upon your request.

We are also looking forward to continue working with Congress and the Department of Energy to develop a comprehensive approach to housing energy issues.

Mr. Chairman, that concludes my remarks, and I will be glad to answer any questions you may have.

[The prepared statement of Mr. Stafford follows:]

STATEMENT

of

THE NATIONAL ASSOCIATION OF HOME BUILDERS

before the

SUBCOMMITTEE ON REGULATION AND CONSERVATION

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

on

S.1355 - THE RESIDENTIAL ENERGY EFFICIENCY RATINGS ACT

MARCH 27, 1990

Mr. Chairman and Members of the Subcommittee:

I am Don Stafford; I am a homebuilder from Charlotte, North Carolina, and I am the Vice Chairman of the Energy Committee of the National Association of Home Builders (NAHB). It is, indeed, an honor for me to appear before you to represent the views of NAHB's more than 157,000 member firms on S.1355.

NAHB was created as an association to unite the diverse members of the housing and building industry and to serve the needs of a rapidly growing profession. It is a federation of more than 800 state and local builder associations. Its members include builders and their associates in numerous allied fields such as housing finance, the building supply industry and sales and marketing. NAHB has as its mission to enhance the climate for housing and the building industry and to promote and maintain policies that will keep housing a national priority. Chief among its goals is providing and expanding opportunities for all consumers to have safe, decent and affordable housing.

At this point I would like to set a framework by first describing the broad trends in energy efficiency and the role that NAHB has played to date. Then I would like to describe what we consider to be the direction in which Congress and the Administration should move, and how NAHB can participate. I will then conclude my remarks with a critique of S.1355. While we may generally favor a well constructed voluntary concept of home energy ratings, we would do so as a component of a more comprehensive approach to energy efficiency in buildings.

BACKGROUND

The housing sector has played a large role in energy conservation since the 1970's, with new homes showing steady improvement in energy efficiency. The amount of energy used in newer homes is dramatically less than that of older homes. According to the Department of Energy publication, "Energy Conservation Trends, Understanding The Factors That Affect Conservation Gains in the U.S. Economy", September 1989, homes built in the 1980 to 1984 period are using only slightly more than half the energy used in the oldest houses: they are almost twice as efficient. The savings are due to better construction techniques, more efficient heating equipment, more insulation and more energy efficient windows and doors.

The report goes on to note that residential energy savings have persisted over the entire period of the trend analysis indicating that conservation investments are firmly embedded in the nation's housing stock. In 1986 the housing sector saved proportionally more energy than any other sector of the economy. The wide range of energy uses and conservation options has made the residential sector both highly flexible in its ability to conserve energy, and responsive to fuel price changes.

NAHB has played a role in this success story. NAHB, and the NAHB National Research Center, a not-for-profit subsidiary corporation of NAHB, have played a major role in research and development of energy-saving technologies and products for the home. NAHB's National Research Center (the Research Center) has performed cooperative research and studies with industry, prepared numerous educational materials and manuals for home builders and home buyers, developed and promoted voluntary energy conservation guidelines, which have been widely accepted, developed prototype energy efficient residences, and developed monitoring and measuring techniques for determining the contributions of passive solar designs and related energy conservation and renewable resources. In short, for nearly 30 years, NAHB and the Research Center have been in the forefront of assisting the building industry in producing more cost-effective, energy efficient homes and apartments.

In the late 1970's, we developed the NAHB Thermal Performance Guidelines (TPG's) for use by builders who sought to build significantly improved energy efficient homes. We took the TPG's to the major secondary market participants in residential mortgages -- the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) -- and they agreed to provide more liberalized

underwriting criteria for homes built to the TPG's. Therefore, there was an incentive for the builder to be more energy efficient in order to qualify more families for his product. The program was expanded to use standards developed by others that were at least equivalent to the TPG's. This type of program had success, but it must be expanded and improved to attract more builders and lender participants.

More needs to be done because the forces for increased energy efficiency are as strong if not stronger today. Problems of global warming, ozone depletion and the plain fact that we are still dependent on foreign sources of energy all drive for energy efficiency improvements. Therefore we commend the initiative behind S.1355. Our policy is that we should pursue industry efforts to ensure that all housing continues to show significant improvements over the coming decades.

POLICY FRAMEWORK

NAHB believes that the nation needs to focus on a comprehensive policy or strategy to address energy issues. We emphasized this point when we submitted our recommendations regarding the National Energy Strategy to the Department of Energy. I would like to briefly summarize some key points. NAHB stated that the focus of the National Energy Strategy should be on the interrelationship of environmental quality, economic competitiveness and energy security. The National Energy Strategy should take a balanced approach toward the development of enhanced energy resources, including their transmission and distribution systems, and improvements in the end use of energy. It should, however, recognize that energy efficiency provides an unique opportunity to simultaneously serve these national priorities. Furthermore, NAHB believes that industry should accept the responsibility to achieve greater energy efficiency in the residential sector, which, along with similar progress in all sectors of our economy, including commercial, transportation, industrial, and agriculture, will promote America's continued prominence, competitiveness and prosperity in the world economy.

Regarding improvements in the building sector, the strategy should recognize and support the fact that energy efficiency improvements in housing can, and should be, accomplished largely by the private sector in a partnership creating cooperation among builders, product suppliers, utilities, realtors, appraisers and mortgage lending institutions, and by properly and fairly recognizing national buyer and lender benefits of voluntary programs. Encouragement of broader development of these programs

rather than mandates, will result in higher levels of energy efficiency on an equitable basis. Programs that encourage and support higher debt-to-income ratio loans based on energy efficiency of new construction, and a uniform energy efficient mortgage program for existing housing, with support from all appropriate federal agencies and an increased level of lender, realtor and consumer awareness, should lead to a wider penetration of a more energy efficient housing stock.

In addition, not only will a voluntary program reach a greater level of acceptance than a mandatory approach, but it will also establish an education system and an ongoing network for continual transfer of newly developed information. Better information in the hands of the user leads to an atmosphere that fosters more creative solutions to providing higher levels of energy efficiency. Government's role should be to remove barriers to the more rapid adoption of new energy saving products and technologies.

NAHB RECOMMENDATIONS ON A COMPREHENSIVE PLAN

Within this framework, NAHB recommended three broad program approaches. They are:

- Approach 1: A national voluntary environmental and energy efficient housing program.

- Approach 2: A technology transfer program for the energy retrofit of existing buildings.

- Approach 3: An advanced housing technology program for the adoption of quality, energy efficient and cost-effective technologies into the U.S. home building industry.

o Approach 1: A national voluntary environmental and energy efficient housing program.

A national voluntary environmental and energy efficient housing program should be recognized by Congress and the National Energy Strategy as an industry driven public/private sector partnership program designed to increase the supply and improve the marketability of new and substantially rehabilitated homes built to a comprehensive set of energy efficiency and related criteria that include the use of active and passive solar techniques, such as those in the Passive Solar Design Strategies: Guidelines For Home Builders. The Energy Committee has set a target for the program's goal to reduce residential space heating requirements by 50 percent over 1980 average new homes by the year 2000. The program would be responsive to national concerns about global warming, oil imports, power plant emissions and utility capacity shortfalls, as well as the economic interests of new home buyers and the widely recognized need for more affordable housing.

The essential elements of this program will be:

1. Creating a broadly based public/private sector industry advisory board;

2. Establishing rigorous voluntary performance guidelines;

3. Training and registering builders;

4. Promoting and marketing specially marked energy-efficient homes and certifying that they are built to the program's criteria;

5. Creating a warranty program for the home owner which would cover defects in design and installation of energy efficiency measures;

6. Providing routine qualification for more liberal underwriting terms;

7. Acquiring special incentives from utilities tailored to regional and local conditions; and

8. Establishing a technology transfer and information delivery mechanism to rapidly circulate new developments in building science.

NAHB will work with its 800 affiliated state and local home builder associations and through them their respective utilities, state energy offices, and others in the building industry at the grass roots level to implement the program.

° Approach 2: A technology transfer program for the energy retrofit of existing buildings.

Congress should also recognize the need for a technology transfer program for the energy retrofit of existing buildings, and link it to the development of a uniform energy efficient mortgage program to provide financial incentives and positive market signals. Developing a program for existing housing with comparable components to those described above for new construction, ensures, at a minimum, the effectiveness of energy retrofits. This is a monumental task that requires significantly more thought and effort.

Given the complexities of addressing energy retrofit of existing housing, Congress should encourage the initiation of a program to identify and target various segments of the industry engaged in the transfer of energy retrofit technology, identify their decision-making processes and sources of information, and demonstrate technology transfer with selected target groups. The ultimate goal of the program is to have industry and the Department of Energy work cooperatively toward the development of alternative cost-effective strategies and plans for retrofit technology transfer.

° Approach 3: An advanced housing technology program for the adoption of quality, energy efficient and cost-effective technologies into the U.S. home building industry.

Congress and the National Energy Strategy should support an advanced housing technology program that will accelerate and advance the adoption of quality, energy efficient and cost-effective technologies into the U.S. home building industry. The residential home building industry is one of the largest and most important sectors of the U.S. economy. The

productivity and competitiveness of the industry and the affordability and quality of its products and processes can be increased by accelerating the rate of adoption and application of technological innovation. Frequently, 10 to 15 years pass before one-half of the industry adopts a new product or process. Speeding the adoption of advanced technology can help the housing industry respond to competitive pressures and expand its markets by providing reasonably priced, well-constructed energy efficient housing.

An advanced housing technology program based on joint industry/government efforts will seek to further the understanding of how technologies gain acceptance by the housing industry; evaluate and select those technologies of high relative merit in regard to quality, energy efficiency, and cost-effectiveness; assess the future impact of these technologies on the entire industry; and develop a plan for accelerating adoption of innovative technologies.

All of these efforts require active collaboration between government, industry, the research community and the public. Congress should encourage an overall strategy that would signal with clarity the importance of working together, a call for a new partnership by all interested parties, both public and private. We must look for a balance that complements the goals of energy sufficiency, environmental quality, and housing affordability. We know that the free market system can provide the context within which to reach this balance. Therefore, Congressional support of the programs recommended above should be the beginning of such collaboration.

COMMENTS ON HOME ENERGY RATING SYSTEMS (HERS) IN GENERAL

Before commenting specifically on S.1355, I would like to make several observations about energy rating systems. NAHB opposes mandatory rating systems. NAHB could support a voluntary HERS to the extent that its existence contributed to improvements in energy efficiency in housing. It is not clear to us that a rating program, by itself, would have any significant impact. The goal should be to encourage energy efficiency upgrades in existing housing and to make new construction more efficient. Using a rating program merely as a consumer shopping comparison tool may have negative effects of devaluing the less efficient housing and leaving the less efficient housing to those who can least afford their higher energy operating costs.

The only way to prevent that from happening is to have a comprehensive market driven program with financial incentives and contribution from those who would derive benefits from the program. One means of providing incentives is through a uniform energy efficient mortgage. An energy efficient mortgage does two things. One, it allows for a stretch ratio, an increased debt to income ratio, for the purchase of a house that already is energy efficient. This is a very important aspect. Equally important is its second aspect. The provision that allows the cost of energy efficiency improvements, to a non-energy efficient house, to be wrapped into the mortgage. This is one of the features that will generate energy efficiency improvements in existing housing which should be one of our overall objectives.

Energy efficient mortgage's have been around for a while and the major secondary lending institutions have energy efficient mortgage programs. Unfortunately with the number of different programs which have different procedures with different time and dollar parameters there is confusion and misunderstanding on the part of buyers, realtors, lenders and investors which leads to delays and resistance to the concept of making needed energy improvements at the time of purchase and refinance. Continuing effort needs to be made to remove barriers to the use of energy efficient mortgages, to simplify and make uniform the procedures and applications for this program and actively market it to lenders, realtors and homebuyers.

In order for energy efficient mortgage's to be effective and widely used, there must be a uniform energy efficient mortgage. And in order to take advantage of a uniform energy efficient mortgage program there needs to be uniform evaluation criteria at the mortgage level. The evaluation criteria could be in the form of an audit to provide information on the home solely for the mortgage process or it could be in the form of an energy rating as part of a broader system. A uniform evaluation criteria for use in a uniform energy efficient mortgage needs to be developed. It needs to be accurate, verifiable, consistent and recognized as acceptable to all parties involved in the housing industry. It needs to help affordability through increased energy efficiency more than it hurts affordability through increased cost.

COMMENTS ON S.1355

S.1355 is a bill to assist private industry in establishing a uniform residential energy efficiency rating system and for other purposes. The bill would direct the Secretary of Energy to contract with a qualified residential energy ratings organization to develop a ratings system in consultation with participants in the residential shelter industry, energy conservation officials and others, to set standards for State energy rating organizations, to provide training and technical assistance and to maintain a national residential energy efficiency data bank. Federal funds would be authorized to support these efforts at an appropriation of $8 million for each of fiscal years 1990 and 1991, $4 million for FY 92 and $2 million for FY 93.

Within the context of our recommendations for a comprehensive plan for the residential sector and our position on energy rating systems in general, we have the following questions and answers regarding S.1335.

1. The way the bill is currently drafted we are uncertain where it is ultimately leading. Voluntary rating systems by themselves most likely will be ineffective without strong incentives to use them. Either they must be coupled with other incentives or made mandatory. NAHB would strongly oppose making them mandatory.

2. Rating systems by themselves may not provide the ultimate desired result of improving the energy efficiency of the existing housing stock. Without fitting into a comprehensive program, they may shift the demand to more energy efficient housing, devaluing the less efficient housing, which will be left to those who can least afford the higher energy operating costs.

3. We are concerned about potential liability associated with representations made as to energy efficiency. A building might not be energy efficient either because of the improper installation of energy efficiency measures or because of occupant behavior. Under a warranty program, the dissatisfied owner would turn to the warranty for relief. However, in a rating program, what is the remedy? Our concern is the potential for unnecessary litigation.

4. The bill sets up a potential monopoly for one contractor for a period of up to six years. It also sets up the potential for conflict of interest. A single firm will develop a uniform energy efficiency rating system, administer it, and write the regulations and guidelines that govern who enters the industry.

5. We are concerned that the bill's definition of qualified contractor will not guarantee that the most qualified firm gets the job. There are many qualified organizations who, operate for profit, that could do the job or parts of it quite effectively. Hence, it may not be appropriate to automatically exclude them. We also believe that the firm that may be qualified to administer the program may not be qualified to design the standards.

6. The bill does not consider the potential inter-relationship of energy efficiency with indoor air quality. We would not want to see a rating program that inadvertently exacerbates indoor air quality.

7. Energy efficient mortgages should be a primary component for achieving energy efficiency. These mortgages let primary lenders use easier qualifying rules for buyers of energy efficient homes, and allow buyers of existing homes to finance energy improvements in their purchase mortgages.

8. The definition of cost-effective residential energy efficiency improvement does not reflect the full cost of the improvement. It ignores consideration of life expectancy of the improvements, maintance, operation and replacement costs and the impact of increased down payments upon housing affordability.

9. The contractor consultation requirements with the building industry are too weak, ignoring the needed aspect of consensus. The public review provisions are equally vague and limited which could lead to a closed, unfair process.

10. The bill needs to address the cost of setting up the rating system, to assure the benefits to be derived from the system will outweigh its cost.

11. The bill should also address the affordability impacts of performing a rating.

CONCLUSION

Mr. Chairman, we believe that our nation must devise a comprehensive national energy strategy aimed at housing affordability, the environment, resolution of the Federal budget deficit and balance of payments deficit to ease pressures on interest rates, increasing energy security, particularly our energy independence from oil imports. S.1355, which seeks to promote energy efficiency in homes, is but one piece of the puzzle. Acting on individual pieces without full recognition of all the components will hinder full development of a comprehensive plan.

We believe that all pieces of the puzzle should be integrated into a more cohesive, comprehensive approach. Otherwise, the process would be analogous to trying to construct a better home by concentrating solely on the design and construction of a wall. To complete the puzzle, it is necessary to consider not only energy efficiency ratings, but also energy efficient mortgages, warranties, the role of public utilities and education and training in a comprehensive manner. NAHB believes that the proper structuring of incentives and the full participation of all interested parties for a comprehensive program for energy efficient homes, both new and existing, will achieve far better results than single effort programs. We strongly support energy efficiency and believe that the desired results can be achieved through a comprehensive voluntary program.

NAHB believes that the leadership and expertise exists within the industry and the Department of Energy to develop a comprehensive approach that will provide more significant benefits through a better utilization of joint resources. Industry and DOE have already begun a collaborative process to develop a full private/public sector partnership. This process will result in a comprehensive delivery mechanism that will enhance energy efficiency and housing affordability.

In closing, we commend the Committee for holding this hearing. We also want to commend the Department of Energy for taking the initiative to develop a National Energy Strategy as well as their recent efforts to work cooperatively with industry. These are the first steps in developing comprehensive policies and programs. We have already allocated development funds and are working on the specifics of the programs described earlier and would be pleased to provide more details upon request. We look forward to continuing to work with the Department of Energy, as well as with Congress, to develop a comprehensive approach to housing energy issues.

Mr. Chairman, this concludes my remarks. I would be pleased to answer any questions you may have about my statement.

Senator BUMPERS. Thank you, Mr. Stafford.

Ron, we finally get to you. Can you summarize your testimony?

STATEMENT OF RON HUGHES, PRESIDENT, ENERGY RATED HOMES OF AMERICA

Mr. HUGHES. It sounds like I had better. Chairman Bumpers, I appreciate the opportunity to appear before you today. My name is Ron Hughes. I am director of a home energy ratings system in Arkansas.

About four years ago, Arkansas decided to adopt the uniform energy rating system which had already been piloted in a couple of states. We liked the idea of a national uniform program, and we wanted to do our part.

To date, five states are members of this uniform system and we are expecting, anticipating, three to four more this year; South Carolina being one. And all of these states are members of Energy Rated Homes of America, which administers this uniform rating system. This system was envisioned from the beginning to be a cooperative effort of the shelter industry to develop and administer a national uniform program. So all these states sit on the board of directors of Energy Rated Homes of America. And we are a 501(c)(3), not-for-profit organization. I think it is interesting to note that when the IRS approved our 501(c)(3) it was because we were removing the burden of government, to use their words.

I currently serve as president of Energy Rated Homes of America, and I will be testifying today on behalf of Energy Rated Homes of America.

This idea of pulling an industry committee together certainly makes sense. That was how this program started in 1984 in the Pacific Northwest. Co-chairing that committee was John Teutsch, who is the incoming president of Mortgage Bankers of America, and Ken Thygerson, who was president of Freddie Mac at the time. So they pulled together this committee with the CEOs and the chairmen of the boards, of Fannie Mae, Freddie Mac, five mortgage insurance companies, we had a couple of past presidents of the National Homebuilders, past presidents of the National Association of Realtors. They put this thing, back before Arkansas came on board, they put this committee together. And this committee said if we are going to have a national uniform rating system, it has got to be run by the shelter industry; it has got to be accepted in the mortgage process; and it has got to be voluntary.

They put the guidelines out for what a program like this could look like. Some people at Western Resources, which was part of the University of Washington, started this. The appraisers and lenders came to them and said we need a way of looking at energy and the mortgage process. Alaska came on next, Arkansas came on, we moved the national office down to Arkansas. Since then, Vermont has come on board, Rhode Island has come on board, Mississippi is on board, South Carolina is going to be one of our next states. We are developing a program for west Texas as soon as we get DOE approval for use of the oil overcharge money. So there is some momentum building in this area.

So many such meetings of committees have followed on the state level as we developed this program in each state because, as it has been pointed out, you cannot have one entity at the top telling everybody and the country how to run their rating programs. You have got to have local programs, but you need some coordination of this, you need some guidelines, you need everybody looking at the same issues in the house and having a rating sheet that a lender anywhere in the country can recognize.

So, state by state we have been improving on this methodology and distilling out something that works, so some of the things in the legislation, I think we have to be real careful in addressing, is the flexibility that we allow our states. We have already all talked about that and I think all of us are pretty much in agreement.

How this rating system relates to the mortgage process, they are separate issues. We have great opportunities here for providing affordable housing and improving our housing stock if we take advantage of the rating system. And the great thing is, is that we do not even have to go out and get a lot of big policy changes in the way we look at energy and the mortgage process. Already and for years, FHA has informed home buyers that if you are buying an FHA house, you can borrow money for energy improvements. It is just that the word is not getting out. So there are some policy changes and some new things that we might like to make that are really changes, but some of the things that we could do are just taking advantage of what is already in place with Fannie Mae, Freddie Mac, FHA, VA. So that is exciting.

But there are some barriers to this, and so we are going to have to think about federal support needed down the road to remove some of those barriers.

This has to remain a voluntary and cooperative shelter industry initiative. It is what it has been all along, it is what has brought it this far, and we have to keep it like that.

Now we have to manage this thing nationally with fairness and integrity. We have to, I think this is really critical, to avoid unnecessary delays. And if we can get this Bill passed this year, if we can get this entity designated by DOE, if we can start to move on this thing, it is really important. That is a real concern. Who is this entity going to be? I share, as a director of the Arkansas rating system, I share the same concerns that I am hearing from other people on our panel today.

We have to build on what has been demonstrated to work out there in the field. We cannot sit in the office and dream up another great idea for a rating system. For God's sake, the time for that was 10 years ago. And so let us build on what is working out there already.

Senator Bumpers quoted this, 11 percent to 22 percent increase in first-time home buyers. The Federal Home Loan Bank in Seattle asked the Harvard/MIT Joint Center for Housing Studies to look at this uniform rating system that we are talking about right now in all these states and what the impact is. And that is what they concluded.

The thing that is incredible, is you know, we say that lenders ought to look at the energy costs in housing We do not know what the energy costs in housing are. I say, I have got an efficient house

and you ought to lend me more money because I have got lower utility bills. And the lender says, lower than what? What is the average? We do not know. And until—that is one of the things that is really exciting about the housing data bank. Because if we can start to rate the houses across the country, and now we have got enough information in there that we can say with certain fuel mixes, certain size houses, certain types in a certain area, this is the average cost of housing. You have got an efficient house, then this is how much money you are saving. We have never had that information before.

I look at our federal programs where we have looked at millions of houses with weatherization programs, with rehabs, with section 8 rental assistance, with LIHEAP. We do not have any information on those houses. It is in file cabinets. We cannot get it. We do not even know what those houses look like. If we just routinely did energy ratings on all those houses with all those federal and state assisted programs that we are doing, look at the wealth of information we would have in that housing data bank. For the first time ever, we would be able to profile the efficiency of our housing stock.

When we say, boy, it is hard to have one of these things be self-sustaining, and we certainly know it in Arkansas, because we have invested a lot of time and effort, and we wish the phone was ringing off the wall, but you have got to tie this to something. If we routinely were just rating those houses that we are providing this assistance to, a lot of ratings would get done, that would be a cash flow through these state organizations that would be running their program.

Loan security—look at all these defaults across the country. What is the impact of utility costs on those defaults? We do not know. I know that we looked at 50 FHA repossessed houses in Little Rock last year. Ninety percent of them were—energywise, they were wrecks. And what do we do? We put paint and carpet and we put them back on the market. Somebody buys them, the same house goes into default the next year. We are recycling our housing trash. That is what it boils down to. And who is to blame for this?

You cannot blame HUD, they do not have the money to fix them up. They say, we have got to get rid of these houses. We cannot require buyers to fix them up, we have got to sell them. So we sell them at discounted rates, they come back on the market, again somebody has lost their credit rating because they defaulted. We put more paint and carpet in them and we put them back on the market. So the loan security, if we are looking at our S&Ls, I think that this has real potential for impact.

Program administration. Why not-for-profit? I think there are a lot of reasons. We had a meeting in Little Rock one time, and I stood up and talked to my Homebuilders Association, and told them about the program. I sat down and one of my builders who is on my board of directors in Arkansas sat up and said, boys, you got to understand. He says, Ron works for a not-for-profit, they are not trying to sell you something, they are here to help us. They are not trying to make money off of us. So there was this perception out there in that building community that was kind of interesting. All

right, I think that third party credibility that comes with a not-for-profit.

If we want this program to be cooperatively administered by the shelter industry—builders, lenders, appraisers, realtors, mortgage insurance, utility—cooperatively administered, there is no better vehicle than a not-for-profit with all these people sitting on the board.

We look at our state programs that are working, that is the way the state programs are working on the state level, well, let us take that model to the national level. And that is what we are pursuing right now with Energy Rated Homes of America. That is what it was established to do. How can we turn this program over to the shelter industry? Set up a national not-for-profit, invite the National Association of Homebuilders, the realtors, the mortgage insurance people on the national level to be on the boards, to be on advisory committees, have participation from the states. That is the way to decentralize this thing, give that local autonomy, but yet, have some kind of consistency in the way that we are rating our houses.

So if you just look at it on the practical level, the not-for-profit is just what has worked out there in the field.

Seven states right now are piloting rating systems. Five of them are Energy Rated Homes Programs. Colorado has got their own. There are a couple of municipal programs. Iowa has got their own. We looked at all these programs, then we looked at the ones that are coming on next year. We have another, 1, 2, 3, 4, 5, 6 states that are bringing on ratings systems this year. So it is interesting to hear DOE say, well, let us all sit around the table and talk about what a rating system ought to look like. I am seeing this happening right now.

We need to build on this and we need to take advantage of this momentum. These people that are doing these rating systems right now, they are our best resource base. They are the people that know how to do this and the people that we are going to depend on to make this thing national. So we cannot delay because if we delay, they are going to run out of money. And those people are going to go find other jobs. And we are going to be stuck.

So in regards to DOE participation, and I will try to hurry through this, I would like to see—the Bill right now says that DOE has six months to designate an entity. I think that ought to be reduced to two months. I think they would like to have a year. They ought to know what is going on. They gave this program an innovative energy award in 1984. They have approved state funding using oil overcharge money for all the states that have developed. They all know what is going on. They ought to know who to designate right now. And if not, it would not take all that long.

But we cannot put DOE in charge of this thing. On the other hand, we have got to have their participation. Last year, we said if we want to bring some consistency to these other programs that are out there. We have got a lot of states doing rating systems. We have got certification programs. If we want to bring some consistency, what is the first thing to do? Well, the first thing, you want to look at the technical accuracy. So who do we go to? We went to DOE with a proposal last fall, we still have not heard from it, so let

us use your DOE labs and let us establish some standards for how accurate tools have to be. Let us use people out there in the field that are doing it to help establish our standards. We need DOE's participation on this thing.

So what we are saying is that if programs want to be included within a national uniform system, to allow diversity in local programs, to allow inclusion of certification programs, they just have to meet a few guidelines. They have to be technically good enough. Let us have DOE do those evaluations, I do not care.

You have to have a scale of efficiency that everybody is using that is standard that we can all agree to. Let us all talk about what we think it ought to look like and let us come up with them. I think that we have already got some good models to work from. We have to have a provision for quality control, three things.

And the fourth is that you have to report all these houses to this national data bank. That is kind of what this licensing thing is. It is not anything to make it difficult, let us just make sure that we are all looking at the same things and that we are all feeding this information into this national housing data bank.

So we have already started this work, we have got to go to multi-family, somebody pointed out. We went to Lawrence Berkeley Lab two years ago and said let us look at multi-family, will you help us? Another DOE lab. We are not trying to keep DOE out of the picture. It is just a question of who is in charge.

I got a letter back from Ron Richard, Deputy Program Leader, Lawrence Berkeley Lab. I quote, "From our previous evaluation of home energy rating systems, I have concluded the Energy Rated Homes approach developed in Arkansas offers the most suitable presentation format for a nationwide rating system. Since I anticipate that the nation is moving in the direction of rating programs that are consistent across state boundaries, I believe Lawrence Berkeley Lab and Energy Rated Homes should merge their strengths." So DOE is already involved in that. They do not know it here in Washington, apparently from the testimony this morning.

So we have got to have this flexibility. We have not talked about utilities in the legislation. They should be allowed to be included on a voluntary basis, like everyone else. If it is technically good enough, if there is quality control, report all those houses, then that is just fine.

So funding, just a second on that and I am just about through. This $22 million that is in here over eight years. I believe that if we build on what we have done in the past and take advantage of what we have done in the past and build on that and expand, we have got an opportunity right off the bat. Offer all the different states that are not doing a rating system several models to choose from. If DOE funds us for our proposal that we asked for last year, then we will be able to offer them a number of different analysis tools to analyze the house. A lot of flexibility. States can set up the program however they want to, as long as you meet these certain guidelines that we have just outlined.

So I believe that we can do that, and as Bill pointed out, the money cannot all sit up at the top at whoever is in charge. The money has got to go out to the states. I believe that there is enough

money to develop this program for the country, set up an organization in every state to run the program and do the trainers training that is required so that we know so that the lenders, the appraisers, the realtors, so everybody has got their training know-how to take this thing out on the street. I think there is barely enough money to do that, but I think if we build on what we have done in the past, there is enough to do it.

Now we have got a program that is out there all across the country and now, if we want to say, let us rate all those Section 8 and rehab and weatherization houses, and FHA, let us start telling those people that they can do these improvements and take advantage of this energy efficient mortgage. Let us look at policy changes. Let us look at energy cost and the mortgage process. Now we can do it. But we cannot do it until we have a rating system, this whole energy efficient mortgage thing and the rating system are two different issues. They are complementary, but they are separate issues. And if we can get this rating system out there across the country, then we can look at these other things and get the kind of impact that gets us excited when we see a quarter of a million more families a year.

So I would be happy to furnish any supporting documentation. Included in my testimony is a list of this additional committee that was assembled years ago, and be happy to answer any questions.

Thank you, Senator.

[The prepared statement of Mr. Hughes follows:]

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"The uniform system of evaluating and rating home energy efficiency"

Testimony of Ron Hughes
President of Energy Rated Homes of America
Before the Subcommittee on Energy Regulation and Conservation
Committee on Energy and Natural Resources
United States Senate

March 27, 1990

Chairman Metzenbaum, Subcommittee members, I appreciate the opportunity to appear before you today to discuss this important and timely piece of legislation which you are considering. My name is Ron Hughes. I am director of a state-wide home energy rating system in Arkansas. Arkansas chose four years ago to adopt the Uniform Energy Rating System™ because it met the needs of our state and represented a step towards uniformity across the country.

To date, five states have joined forces in developing this Uniform Energy Rating System– Arkansas, Alaska, Vermont, Rhode Island, and Mississippi. We expect nine by the end of this year. This uniform rating system is administered independently within each of these states by not-for-profits. The directors of these not-for-profits are drawn from the shelter industry.

Representatives from each of these state programs sit on the Board of Directors of Energy Rated Homes of America which administers the Uniform Energy Rating System nationally.

ERHA represents a cooperative effort of the shelter industry, state energy offices, and federal agencies. The goal of ERHA is and always has been to develop and administer a uniform energy rating system for the nation. ERHA is a 501(c)(3) not-for-profit organization.

I currently serve as president of ERHA. I will be testifying today on behalf of Energy Rated Homes™ of America. I welcome this opportunity to voice support of Senate Bill 1355.

In 1984, an impressive committee of industry leaders was established to provide guidance in the development of a voluntary, uniform home energy rating system (HERS). The members are listed at the end of our written testimony. They included executive officers and chairmen of the boards of the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage Corporation (Freddie Mac), the Mortgage Bankers of America, and five major mortgage insurance companies, plus past presidents of the National Association of Home Builders and the National Association of Realtors® and other outstanding leaders in the shelter industry. The committee was co-chaired by John Teutsch, president of the Mortgage Bankers of America in 1988 and Ken Thygerson, past president of Freddie Mac.

This committee defined the parameters of a uniform home energy rating system. It would have to be voluntary, run by the shelter industry, and accepted in the secondary mortgage market. It was called the Uniform Home Energy Rating System™ and has now been accepted by Fannie Mae, Freddie Mac, and HUD for documenting efficiency in the mortgage process.

Many such committees have followed on the state and local levels as this rating system has been piloted in state after state. Now this legislation offers federal assistance to make a uniform HERS available nation-wide. This is an important milestone.

Some of the areas of this legislation that we must be careful in addressing include: the flexibility that we allow our state and local rating systems; how a rating system relates to the mortgage process; the federal support needed to remove the barriers to widespread use; this remaining a voluntary and cooperative initiative administered by the shelter industry with fairness and integrity; avoiding unnecessary delay, and; selection of the most suitable entity to develop and administration a uniform HERS.

Affordable housing. The Harvard/MIT Joint Center for Housing Studies estimates that up to 11% to 22% more families could qualify for home ownership if the Uniform Energy Rating

System was made available nationwide for use in the mortgage process. This is a quarter of a million families a year– mostly first-time home buyers.

This would depend on routine factoring of energy efficiency and energy costs in the mortgage process. Unfortunately, we can't give consideration to energy "savings" for efficiency when we don't know what "typical" energy costs are. We don't have the data. This is one reason for supporting the data bank of rated houses in the legislation. We need the rating system to generate the data. We can then make use of energy efficient mortgage opportunities.

Loan security. The cost of energy plays a far larger role in a family's ability to meet their monthly mortgage payment than is recognized. I submit that energy costs also play a major role in mortgage defaults across the country. But it is all speculation. No one knows the impact of energy costs. We should. A uniform rating system for the country is the first step.

We will need policy changes in mortgage lending guidelines and federal assistance programs before we can routinely look at energy in financing and assistance programs. These policy changes should be planned following enactment of this legislation.

These policy changes can be as simple as informing all buyers of the opportunity to have the house energy inspected and allowing the cost of the inspection to be financed. The overall impact on first-time home buyers, the elderly, and the lower income sectors will be positive. These are the sectors hardest hit by rising energy costs.

Policy changes are also needed in programs where federal assistance is provided for fuel assistance, rental assistance, weatherization and rehab work. These houses should all be energy rated. This would allow us, for the first time ever, to profile the efficiency of this sector of housing stock and track the results of our improvement efforts.

Program administration. Not-for-profit administration of the uniform energy rating system is important. National administration should be a cooperative effort of private industry with federal support. A not-for-profit is the best vehicle for such an approach.

On a practical level, not-for-profits have the best track record of success. The lack of vested interest adds credibility. Grants and government appropriations and contracts for future research and development are more easily obtainable. In addition, a not-for-profit should be able to provide the service at a lower cost.

Who should be responsible for developing the rating system? The same people who have been developing it all along and have brought it this far. The course is charted and time is of the essence. Seven states (AK, AR, VT, RI, MS, CO, IA, TX) are piloting rating systems right now. Six more are expected to begin within the year (WI, TX, SC, NM, ME, CA).

The states that have piloted successful rating systems deserve assurance that a national program will include and build on their successful work. This is an important resource base. Funding for all of these state programs is limited. We cannot afford to delay expansion of these regional pilots. Delays will exhaust their funds and we will lose our momentum and our most experienced people in the field.

The time frame for DOE to select an entity to develop and administer this program should be reduced. DOE could best serve the cause by preparing now to contract with an organization as soon as the legislation passes.

Mandated DOE participation should not be expanded past what is currently outlined in the bill. If DOE is given the opportunity to be in control of this process, the concerns are that it will significantly reduce the financial resources that are requested, kill the momentum that has been building, result in a rating system too technical to use in the field or in the mortgage process, and discourage shelter industry involvement.

This is a shelter industry program. It is the shelter industry and state governments that have carried it this far. It is the shelter industry that should continue to expand the program.

This is not too say that DOE will be excluded from the process. Quite the contrary. We need DOE as a partner. It is simply a question of who is in charge. DOE has tracked, evaluated, and been involved in HERS development since the beginning. In addition, DOE has been asked for assistance in several important areas which I will describe later.

DOE funded development of the first pilot of the Uniform Energy Rating System in the Pacific northwest through the Bonneville Power Administration. Western Resources Institute (WRI), at the University of Washington, were the original developers of this Uniform System.

On October 1, 1984, DOE presented WRI with an Award for Energy Innovation in developing this Uniform Energy Rating System™. Most of the states that currently have rating systems are using this same Uniform System! DOE has approved state expenditures of funds to develop this system for four other states to date and a fifth state pending.

From our experience, we feel a national, uniform HERS must be flexible enough to accommodate customized state and local programs within certain guidelines which would include:1) meeting prescribed guidelines for technical evaluation and accuracy; 2) a scale of efficiency consistent with national uniform HERS guidelines; 3) have provisions for quality control, and; 4) require regular reporting of all certified houses for inclusion in the national data bank of rated houses.

From preliminary inquiries, we determined that states not already part of the Uniform Energy Rating System were using technical approaches similar enough to be included within the Uniform System without compromising the integrity of their existing approach– but would require a cooperative effort.

Towards that end, ERHA last year assembled a committee of HERS experts representing all of the different rating systems plus representatives of HUD and the Department of Veterans Affairs for the purpose of developing a process for screening rating systems and analysis tools for accuracy. This was considered the first step in approving different programs and different energy analysis tools within a national, uniform rating system.

The committee sought the assistance of the Solar Energy Research Institute (SERI), a DOE lab to assist in establishing procedures and to pilot the process for a number of different climate zones. SERI had done similar work for the State of Colorado when Colorado was reviewing possible analysis tools for a rating system. The committee sought to build on that pilot.

Energy Rated Homes submitted a proposal to DOE in the fall of 1989 for funding this work. The result would be a menu of approved tools for each climate zone to generate energy ratings on a uniform scale and in a uniform format, easily recognized anywhere in the country. This would allow flexibility on the state and local level in designing programs. At the time of this writing, the awards have not been announced.

When making plans in 1988 to expand the Uniform Energy Rating System to include multi-family, ERHA sought assistance from another DOE lab. This time it was the Lawrence Berkeley Laboratory (LBL). LBL responded favorably.

I quote, "From our previous evaluation of home energy rating systems across the U.S., I have concluded that the Energy Rated Homes approach developed in Arkansas offers the most suitable presentation format for a nationwide rating system. Since I anticipate that the nation is moving in the direction of a rating programs that are consistent across state boundaries, I believe the LBL and Energy Rated Homes should merge their strengths in this area." Signed, Ron Ritshard, Deputy Program Leader, Lawrence Berkeley Laboratory.

Two analysis tools under consideration by ERHA for multi-family structures are PEAR (Program for Energy Analysis of Residences) and ASEAM2.1. PEAR was developed under the sponsorship of the DOE. ASEAM was developed by ASHRAE with DOE support. ASEAM was a winner of a U.S. DOE award for Energy Innovation in 1988.

In the legislation, we therefore recommend allowing both the Solar Energy Research Institute (SERI) and with Lawrence Berkeley Laboratory to assist– either by designation or by contracting directly with the chosen entity.

A national, uniform HERS should be flexible enough to allow private sector efficiency "certification" programs to be included as well. The guidelines for such certification programs should be the same as for local and state rating systems:1) meet prescribed standards for technical accuracy; 2) a certification of "efficient" would be consistent with national uniform HERS guidelines; 3) have provisions for quality control, and; 4) require regular reporting of all certified houses for inclusion in the national data bank of rated houses.

Examples of certification programs include marketing programs offered by utilities, builders, insulation companies, etc. Houses that include certain features or meet certain standards are awarded a certification for efficiency. Energy Wise, E-7, Good Cents, Super Good Cents, Watt Count, etc. are examples.

The role of utilities is not addressed in the legislation. We feel utilities should be offered the opportunity to be involved in the development and delivery of home energy ratings. But utility participation should be voluntary and subject to the same guidelines as stated above.

The National Association of Home Builders has proposed a national builder education program. This is needed. Certifying homes built to certain "efficient" standards established by NAHB could be included within a national uniform system provided such a certification program would meet the common guidelines for inclusion as suggested above.

Funding. Based on our experience, I believe that we can make a rating system available across the country for the 22 million dollars recommended in the bill. This would include: technical development with flexibility to accommodate local/state issues; convening steering committees in each state for guidance; setting up the program in each state; providing "trainers training" for raters, lenders, and appraisers, and; establishing a national infrastructure to administer the program.

We can do this for this relatively small amount of money because we have seven years of development work behind us. But for the program to be self-sustaining on a voluntary basis, voluntary incentives will have to be developed. In addition, the policy changes that have been outlined must be forthcoming.

Implementation of a national. uniform home energy rating system can result in a nation-wide boost in energy efficiency and housing affordability. It can have a corresponding positive impact on mortgage defaults, energy conservation, and climate change. ERHA stands able and willing to assist in any way we can to help bring this about.

I would be happy to furnish ar y supporting documentation or answer any questions.

Thank you.

Lon Hughes

Testimony of

Ron Hughes

President of

Energy Rated Homes of America

Before the

Subcommittee on Energy Regulation and Conservation

Committee on Energy and Natural Resources

United States Senate

March 27, 1990

ATTACHMENTS

ERH National Steering Committee

Design and development of the Energy Rated Homes™ System would not have been possible without the generous support of the following people. We are greatly indebted to them and are most appreciative of their guidance.

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Long & Foster Real Estate, Inc.
Fairfax, Virginia

Thomas M. French, Jr.
Director of Mortgage Banking
Bank of Boston
Jacksonville, Florida

David Gallitano, President
General Electric Mortgage Insurance Co.
Raleigh, North Carolina

W.H. Gillison, President
United Guaranty Mortgage Insurance
Greensboro, North Carolina

Roy Green, President
Federal Home Loan Bank of Dallas
Dallas, Texas

Leon Kendall, Chairman of the Board
Mortgage Guaranty Insurance Co.
Milwaukee, Wisconsin

Warren Lasco, Executive Vice President
Mortgage Bankers Association of America
Washington, D.C.

Glenn Lawrence, Chairman of the Board
Metopolitan Federal Savings & Loan
Nashville, Tennessee

Gerald J. Levy, President
Guaranty Savings & Loan Association
Milwaukee, Wisconsin

Jay A. Luboff, Director
Western Resources Institute
Seattle, Washington

David Maxwell, Chairman of the Board
Federal National Mortgage Association
Washington, D.C.

Ron Poe, President
Dorman & Wilson, Inc.
White Plains, New York

Harry Pryde, President
Pryde Corporation
Bellevue, Washington

Fred Roach, President
Centennial Homes
Dallas, Texas

Dick Schlott, President
Schlott, REALTORS
Fair Lawn, New Jersey

J. Lennox Scott, President
John L. Scott Real Estate, Inc.
Bellevue, Washington

Rob Sibcy, President
Sibcy Cline, REALTORS
Cincinnati, Ohio

Dave Smith, President
Dave Smith Construction Co.
McDowell, Virginia

Brian Stafford, President
Stafford-Hansell Construction Co.
Bothell, Washington

Bill Thomas, Executive Vice President
Federal Home Loan Mortgage Corp.
Washington, D.C.

Doug Timmerman
Anchor Savings and Loan
Madison, Wisconsin

Walter Williams, President
Continental, Incorporated
Seattle, Washington

John R. Wise, President
Weyerhaeuser Mortgage Co.
Woodland Hills, California

James M. Wooten, President
The Lomas & Nettleton Co.
Dallas, Texas

JOINT CENTER FOR HOUSING
STUDIES OF THE MASSACHUSETTS INSTITUTE OF
TECHNOLOGY AND HARVARD UNIVERSITY

SUMMARY

The following is an excerpt from a 1986 study of "The Effect of the Shelter Industry Energy Rated Homes™ System on Home ownership" by The Joint Center For Housing Studies of the Massachusetts Institute of Technology and Harvard University of the effect of a uniform rating system implemented across the country.

Recent changes in housing market conditions have led to increased affordability concerns for many prospective home buyers. In response to these changes a Pacific Northwest program, designed to make home ownership more affordable by providing more favorable mortgage finance terms to purchasers of energy-efficient housing, has been conceived and entered a pilot stage. The purpose of this report is to describe this program, analyze the affordability issues that motivate it, and provide estimates of its likely effect on home ownership for five U.S. metropolitan areas.

The Shelter Industry ENERGY RATED HOMES™ System is a voluntary effort that recognizes the economic benefits of energy efficiency to home buyers, lenders, realtors, builders, and secondary market investors. Houses in western Washington are rated for energy efficiency using a uniform rating system developed under this program. Given the lower costs of maintaining energy-efficient houses, participating lenders are permitted by secondary market institutions to offer higher debt-to-income ratios to purchasers of such homes. Both the Federal Home Loan Mortgage Corporation and the Federal National Mortgage Association have endorsed Energy Related Homes and agreed to purchase loans with higher ratios of housing-related costs to income from participating primary lenders. The Energy Rated Homes Program received initial funding from the Bonneville Power Administration and the Washington State Energy Office. It has also been endorsed by the Board of Directors of the Federal Home Loan Bank of Seattle. About twenty Pacific Northwest lenders have been participating in a pilot stage of the Program, and over 2,000 homes have been rated for energy efficiency.

"The analysis of affordability presented in this report points to three conclusions that are highly relevant to the likely effect of the Energy Rated Homes Program (the Uniform Energy Rating System™). (1) Inflation has distorted the costs and benefits of owning a home. Whereas inflation-induced appreciation in house values is expected to accrue over the ownership period, high mortgage interest rates must be faced immediately by a buyer. This creates liquidity constraints that have been known as affordability problems. (2) These aberrations in home ownership costs have caused real changes in households' housing decisions. Higher-income households are purchasing at higher than expected rates, whereas the opposite is true for lower-income households. Any effort that assists these households to achieve home ownership by easing these liquidity constraints will be serving a useful public purpose. (3) The situation for trade-up buyers is very different than for first-time buyers. Trade-up buyers--many of whom have profited by high rates of appreciation in house prices--can use their built-up equity to compensate for the large cash requirements of home buying. First-time buyers do not have this option.

The Energy Rated Homes Program may be expected to have either of two effects on the demand for owner-occupied housing. By permitting an increase in the percentage of income that the household can spend on housing costs for an energy-efficient home, it

effectively lowers the household income required to quality for a mortgage on a given home. This lower income requirement should have the effect of permitting some non-owners to enter the home ownership market for the first time. The Program may also have the effect of increasing the value of housing that may be purchased by households with a given income. Thus both first-time buyers and trade-up buyers may demand houses of higher value under the Program. Three potential sources of increased demand for owner-occupied housing are thus estimated: (1) housing demanded by first-time buyers who would not have otherwise purchased a home; (2) additional housing demanded by first-time buyers who would have purchased a home in the absence of the Program, and (3) additional housing demand by trade-up buyers who would have "traded up" in the absence of the Program.

The estimates presented here indicate the possibility of substantial increases in the demand for owner-occupied housing as a result of a program of this type. Although the largest effect in terms of housing value is found for "trade-up" buyers (who typically account for 60 to 65% of the homes purchased), the potential clearly also exists for a substantial number of new households to be brought into the home ownership market. *Estimates of the maximum percentage increase in the number of new first-time home buyers range from 11 to 22%. This means that if implemented nationally, an Energy Rated Homes Program could induce an extra one-quarter million households to become first-time home buyers."* Although the actual effect in any given year would be less due to considerations other than monthly housing costs, the results nevertheless point to the possibility of a very important effect in light of the importance to households of lender-imposed restrictions on monthly housing costs.

The question of the degree to which the housing stock can accommodate the increases in demand for energy-efficient homes is also addressed. It is not impossible to envision a situation where energy efficiency is so greatly valued by home buyers, that large numbers of sellers will respond by making energy-related improvements. However, given the significant portion of the housing stock that is not energy-efficient, and given the sluggishness evident in making major energy improvements, recent history suggests that a mechanism will be required to make an adequate number of energy-efficient homes available to potential new homeowners over the longer run. Since it seems unlikely that large numbers of sellers would make substantial energy investments in order to market their homes, a mechanism that permits buyers to modify houses as part of the purchase transaction appears necessary.

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OCTOBER 1988

Energy Analysis Program

Building 90/3125
(415) 486-6328 FTS 451-6328
Telex 910 366 2037

October 10, 1988

Ron Hughes
Energy Rated Homes
100 Main Street
Little Rock, Arkansas 72201

Dear Ron,

It was good to meet with you again last week in Berkeley. Your continued enthusiasm and contribution to improving the nation's housing stock through the home energy rating mechanism remains noteworthy. This letter, I hope, summarizes our discussions last week and especially the joint roles that LBL and ERH can play in moving your program forward.

From our previous evaluation of home energy rating systems across the U.S., I have concluded that the Energy Rated Homes approach developed in Arkansas offers the most suitable presentation format for a nationwide energy rating program. Since I anticipate that the nation is moving in the direction of rating programs that are consistent across state boundaries, I believe that LBL and Energy Rated Homes should merge their strengths in this area.

LBL's expertise as you know is in developing technically sound energy calculations (and simplified calculation procedures) for the residential sector. Under the sponsorship of the U.S. Department of Energy (DOE), we developed voluntary energy performance guidelines single-family residences in over 800 U.S. locations. These guidelines were packaged as a personal computer-based program called PEAR (Program for Energy Analysis of Residences). The data used in PEAR also form the technical basis for DOE's mandatory energy standards for federal residential buildings, the proposed ASHRAE 90.2 standard for residences, and ASHRAE SP53 Committee's recent computer-based compliance program. In addition to our effort on single-family buildings, we have also developed a comprehensive loads data base for multifamily buildings (both new and existing) in 15 U.S. cities. The multifamily data base, which was sponsored by the Gas Research Institute, represents the largest collection of energy performance data available anywhere.

Since our primary talent is in producing credible energy performance data rather than in designing presentation formats, I propose that LBL provide technical support to

a nationwide energy rating effort in the several ways. First, we can validate the accuracy of the existing single-family data used in the Energy Rated Homes procedure. Second, we can translate (transform) single-family data that is not already available into the ERH format. For example, we have already conducted a comprehensive climate analysis and have selected "base cities" and developed a methodology for extrapolating data from these cities to the broader national sample (i.e., over 800 locations). Third, we can transform our multifamily data into the ERH format. In this case, we may need to analyze a few additional retrofit measures in accordance with the existing ERH menu. Finally, we can perform special technical tasks in support of the ERH system such as evaluating the most appropriate indicator of savings (dollars saved versus energy saved). These latter tasks will become clearer as the overall research effort proceeds. Without complete information, I estimate that approximately 2 - 2.5 person-years (~$240-300) will be required at LBL to complete these tasks.

In sum, it seems to make good sense to use the technical expertise within LBL in combination with the existing rating system developed by Energy Rated Homes as the "model" for a nationwide home energy rating program. There are several areas where our expertise seems to be special. We have developed a well documented, well reviewed, and technically sound data base on energy performance in single-family residences and a simplified method for using these data. Our analysis of multifamily buildings is the only available data on this sector. We have surveyed energy rating tools across the nation (and developed a pilot one for testing in California) and are therefore very aware of both the political and technical issues. Finally, I am anxious to work with you in a nationwide effort to improve energy efficiency in the residential sector.

Sincerely,

Ronald L. Ritschard, Ph.D.
Deputy Program Leader

Senator BUMPERS. Thank you very much, Ron. And I thank all of you for your testimony. We have a case here where everybody recognizes that we have a national goal that is laudable and that everybody would like to see implemented, but with considerable variations on how it ought to be done and who ought to be the lead agency. Ron, and let me ask all of you, if you can, make your answers as brief as possible, in Arkansas, do we have an energy rating law in Arkansas? You said there were several states who had them and several more are about to adopt them, including Iowa. You said Iowa already had one.

Mr. HUGHES. Iowa has a rating system.

Senator BUMPERS. Well, do we in Arkansas?

Mr. HUGHES. We in Arkansas have a rating system. The thing that is interesting about Arkansas and Alaska both is that we are allowing the energy rating as an alternative code compliance for a state energy code.

Senator BUMPERS. But it is not mandatory.

Mr. HUGHES. It is not mandatory.

Senator BUMPERS. Do any of these states have mandatory energy ratings?

Mr. HUGHES. Not at this time.

Senator BUMPERS. No? Mr. Stafford, I am particularly interested in trying my best to accommodate your organization. I know that in my state, homebuilders have a tendency to resist these things because obviously the more energy efficiencies you put in a house, the more price you put on the house and the more difficult it is to sell. So I recognize that. But let me ask you a question I asked the secretary of Energy this morning, which he did not have the answer to and that is, do the lending agencies of the Federal Government, Farmers Home Administration or any of the guaranteed loan programs, do any of those programs mandate certain energy or energy efficiency standards before they will loan the money or guarantee a loan? I should know that as a member of this Committee, but I do not.

Mr. STAFFORD. To my knowledge, none of them mandate it, however, Fannie Mae and a couple of others have voluntary programs whereby if you meet certain energy standards you get a break on the debt income ratio.

Senator BUMPERS. In other words, you could buy a little higher price even though your income was not sufficient to justify buying that price house. Is that what you are saying?

Mr. STAFFORD. Yes, sir.

Mr. PRINDLE. Senator, if I may?

Senator BUMPERS. Well, we are very informal, go ahead.

Mr. PRINDLE. FHA has just come out with a new policy as part of its new underwriting guidelines that does allow for the new homes only, newly constructed homes, allows a higher underwriting ratio if the home meets certain energy efficiency standards. For a newly constructed home, Farmers Home does have standards, as does HUD, but again that affects only new structures. For every new home that is sold, there are three out there that are existing that are not getting that kind of treatment. That is what we are trying to get at.

Senator BUMPERS. Mr. Rouda, another organization that I am concerned about because I would like to bring them on board with this bill, is the realtors and let me just ask you this question. Are there very many states, or are there very many areas of the country where a realtor, for example, has a listing on a house and he finds a potential buyer for that house, are there any areas you know of where they present them with some kind of a uniform guideline on whether that house meets certain standards or just set out what standards it does meet and which ones it does not meet so that the buyer can decide whether he really wants the house or not?

Mr. ROUDA. I would have to say, Mr. Chairman, that rarely occurs. Usually a buyer says how much does it cost me to heat the home, how much is the electric, and the answers are given, but rarely do they get into the energy efficiency of a home. It is sad, but true.

Senator BUMPERS. Mr. Rouda, you know we have appliance efficiency standards. And a lot of the appliance manufacturers, incidentally, went to this voluntarily. I know in my home state, I guess our biggest, one of our biggest, if not the biggest employer, is Whirlpool Corporation. They used to make all of the refrigerators for Sears as well as their own brand. And I discussed this, they, I think initially opposed these standards, but when you walk into an appliance store with the intention of buying, say an electric dryer or a refrigerator, have you looked at those little tags about how much power it is going to cost and so on?

Mr. ROUDA. Yes, sir.

Senator BUMPERS. Do you find that interesting?

Mr. ROUDA. Not particularly. I am being honest, Mr. Chairman.

Senator BUMPERS. That does not influence you in your decision?

Mr. ROUDA. No, sir.

Senator BUMPERS. If you had a refrigerator there that was a 15 square foot refrigerator that was going to cost you $20 a month to operate and another one is going to cost you $10 a month, that would not make any difference to you in buying?

Mr. ROUDA. My wife would probably pick out the one that had the best color for her kitchen.

Senator BUMPERS. Now we have got that same problem. I understand that. I am asking you for your opinion, not what your wife does.

Mr. ROUDA. Unfortunately, when you talk about home appliances, the wife's opinion usually take precedence. However, I do not think that really has much influence on people. I just do not think they realize what they could save except that they are side by side, and one refrigerator costs X number of dollars a month, the other one costs X dollars a month and they could save by buying this one, it meets all the things they are looking for, from an interior and exterior design, they would probably buy the cheaper one.

Senator BUMPERS. Let me give another illustration. Let us assume that you are a realtor and you have a hot prospect on a house and you want to sell the house. Obviously you do not want to tell this buyer anything that is going to dissuade him from buying a house. You have a big fee coming. But if you were the buyer,

would you like it if somebody handed you a list of energy guidelines that that house meets? And also a statement that said, this house is likely to use this many kilowatts of power on average year-round. If you borrowed an additional $4,000, you could do this, this, this and this, which would make it more energy efficient and that would save you, we will say, $500 a year. Now that is at 10 percent. You are going to pay $5000 and you are going to get a $500 annual savings on your electric bill or your gas bill or both. Now that is a 10 percent return on your $5000. Would that have any bearing on your decision to buy the house?

Mr. ROUDA. I think it would up to a point. The Boulder Area Board of Realtors already has a home energy survey that they conduct with the homeowner and give to potential buyers.

[The survey follows:]

BOULDER AREA BOARD OF REALTORS
HOME ENERGY SURVEY

This survey is made available by the Boulder Board of Realtors as a convenience for the use of it s members and prospective home purchasers.

PROPERTY ADDRESS: _____ **YEAR BUILT:** _____
YEAR OF LAST MAJOR ( )**REMODEL** ( )**ADDITION** ( )**RETROFIT:** _____
(involving installation of energy-saving materials or devices)

A. ENERGY SOURCES

1. Space Heating (describe)
   ( ) natural gas _____
   ( ) electric _____
   ( ) other (solar, wood, propane, etc.) _____

2. Domestic Hot Water
   ( ) natural ( ) electric ( ) propane
   ( ) solar or other special system (describe) _____

B. ENERGY CONSERVATION FEATURES

1. Building Insulation (list material, thickness, and/or R value)
   ( ) disclosed by builder (new const.) _____
   ( ) added by homeowner (retrofit) _____

2. Other Features

( ) double glazed windows	( ) airtight door weatherstripping
( ) storm windows	( ) exterior joints caulked
( ) window insulation	( ) hot water tank insulation
( ) storm doors	( ) heat duct or pipe insulation
( ) setback thermostat	( ) showerhead flow restrictors
( ) ceiling fan	( ) electricity demand limiter

( ) additional features _____

C. UTILITY BILLING INFORMATION

Monthly charges for the _____ month period ending _____
Average $_____ includes ( ) gas & electric ( ) electric only
Range of temperature setting: normal _____ to _____
No. of occupants _____
Additional comments _____

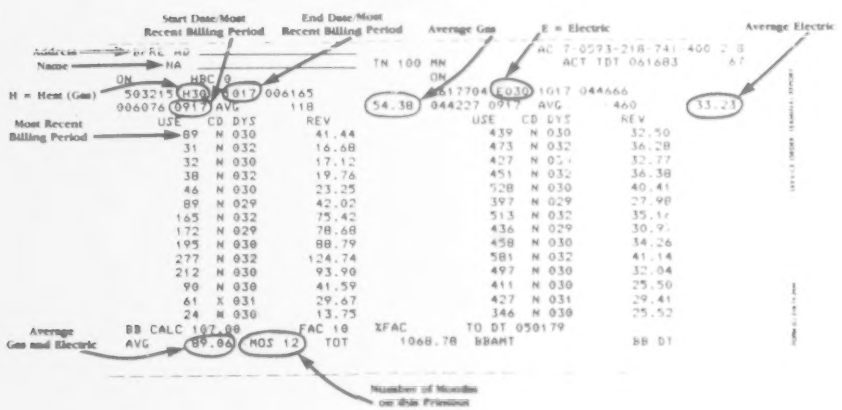
The living habits of the occupants of a home have a substantial and direct effect on energy usage. Utility costs for each occupant may vary greatly from those reported here. Changing climatic conditions also have a significant impact on the energy demands of a home.

This survey was compiled for the benefit of prospective homebuyers from information deemed reliable by the owners, but is not meant to be a substitute for a detailed Home Energy Audit. Neither this form, nor any entries made on it, constitute any warranty, express or implied, by the undersigned owner and/or the Boulder Area Board of Realtors or its members, as to the actual physical state of any residential property or as to the fuel that may have been consumed by the mechanical systems in the buildings on that property. For further information concerning energy conservation, contact the Boulder Energy Conservation Center, a community non-profit organization, at 441-3278.

I hereby authorize any utility company providing service to the address above to release billing information to any person presenting this document.

_____
(signature of owner)

ATTACH UTILITY BILL HERE, THEN COPY FORM



Senator BUMPERS. Now who does that with the homeowner?

Mr. ROUDA. That is the Boulder Area Board of Realtors in Colorado.

Senator BUMPERS. Now, when they list the house, the realtor goes over that with the seller?

Mr. ROUDA. That is correct, sir. And then presents it to the buyer to show them that this home has been utilized and studied from an efficiency, energy efficiency standpoint.

Senator BUMPERS. Who designed that document?

Mr. ROUDA. The Boulder Board, staff tells me.

Senator BUMPERS. The Boulder Board?

Mr. ROUDA. The Boulder Area Board of Realtors, yes, sir, in Boulder, Colorado, designed the form.

Senator BUMPERS. Okay. Do you think that is a good idea?

Mr. ROUDA. Yes, sir.

Senator BUMPERS. Why not do that nationally?

Mr. ROUDA. Well, I think the biggest problem you have nationally—are you talking about a rating system or just telling people what it costs to——

Senator BUMPERS. No. Exactly what Boulder is doing. As I said earlier, we are trying to make this an voluntary operation, at least initially.

Mr. ROUDA. I could not comment nationally. I just saw this yesterday for the first time. I was not aware the Boulder Area Board of Realtors had done this. There is nothing wrong with doing this. This would be a good idea across the country to show the prospective buyer the importance of energy efficiency and what it would save them in the operation of their home. So it would be good. It would be good PR from the seller's standpoint and good information from the buyer's standpoint.

Senator BUMPERS. You see, what I like about that, Mr. Rouda, when somebody comes in to list a house with you, you go over that with the seller first.

Mr. ROUDA. Correct.

Senator BUMPERS. And you fill that out with the seller. So you are sort of taking him into the bosom of the lodge on the opening round. And he knows that you are going show that to the buyer. Right?

Mr. ROUDA. Yes, sir.

Senator BUMPERS. Now if that is really a disastrous looking sheet, the seller might want to do some improvements before he lists it. That would be another incentive. Would it not?

Mr. ROUDA. Possibly. Depends on the cost, but, yes, possibly.

Senator BUMPERS. Would you agree that we have an overriding, I mean I recognize that realtors, you know, I want to accommodate their interests as well as the homebuilders. They all friends of mine back home. Would you agree, all of you, that there is a national overriding concern which we have been leaving just to an ad hoc basis. Let me go back and start over again.

After the oil embargo in 1973, Congress went into a frenzy. This particular Committee, which nobody but western Senators ever wanted to be on, became the sexiest committee in Congress. Everybody wanted on this Committee because it was the Energy Committee. And everybody thought energy was the wave of the future and

this was the one that was going to get all the press and all the attention. And it did for a while. This Committee, for example, established CAFE standards. We told the automobile industry you have got to produce cars that get 28 miles per gallon by the year 1985 or 1984. Incidentally, as always, they said that was impossible.

But my point is since that time we have lost our enthusiasm. We also have found an additional 400 billion barrels of oil located mostly in the Middle East. I do not take a great deal of comfort from the fact that of the roughly 800 billion to 1 trillion barrels of oil we now have, which is almost twice as much as we knew about in 1973, does not do us any good because it is not in the United States. It is some place else.

Now, laying that little groundwork, would you all agree that there is a national overriding interest in doing all we can to make our homes more energy efficient and cut down our dependency of imports on all kinds of fuel. Do you agree with that?

So what we are talking about here is who is going to administer it, whether it is going to be developed by a non-profit organization or by the Department of Energy, or by somebody else, and how much it is going to cost and so on. So those really should not be that big, they should not be that big of an impediment, should they? Cherry?

Ms. DUCKETT. I do not think so, Senator, and I, probably no doubt you are not surprised, our concern really is in the process because we feel like there is so much data out there right now. The states know, and we have been time and again caught up in this issue of this is the program, this is the rule and everybody is going to follow it, and you cannot run a program in housing or very few other things that is going to work in Alaska and Arkansas. I mean, it just will not do it. I would hate to throw the baby out with the bath water.

I have not heard a lot of difference of opinion here. I think some of it, as he mentioned, is semantics. I do not know that we disagree with a lot that was said here other than the DOE statements. And I am a little concerned, you know, in Mr. Davis's remarks, if they do disagree, then go ahead and read the rest of the Bill. Because what I thought I heard him laying out to do was very much what is in this Bill.

Senator BUMPERS. Well, I do not want to browbeat Mr. Davis any more than I already have. I must say I have to discount his testimony, because it turned out to be almost irrelevant to what we are here for. But, Mr. Prindle, I think it was you while I was gone. You said you would like to change the word uniform to guidelines. Is that correct?

Mr. PRINDLE. Yes. I think it is a perceptual matter as much as anything else. The idea of a uniform system is going to disturb people who have been running their own systems which they have been very happy with for several years now. I think they would perceive the creation of a "uniform" system as something new that would come in and change what they are doing. We would rather see some guidelines established that allow them to continue doing what they are doing with maybe a few changes to accommodate the national requirements. I think that will get a lot more support from a lot of the private industry groups.

Senator BUMPERS. Well, I do not have any problem with that. You know, a rose by any other name will smell the same. We have a goal here that we are trying to reach and if you want to use a particular word that you think would lessen opposition to it, that just suits me fine.

The concern about guidelines, for example, in Alaska being different from the guidelines in Florida, I do not see why that is a big problem.

A third thing, and we are doing it on the Clean Air Bill right now, and that is this question about what if states want to do something on this? That is fine. The question is always if states want to do something more dramatic. In the Clean Air Bill, we defeated an amendment the other day that said states could not. Our answer to that is that if California, for example, who has a really dramatic problem, the worst in the country, if California wants to adopt more stringent clean air standards than are in that bill, I say that is fine, let them.

And with this, if some state, for example, usually Oregon, Vermont, those are the states that are usually on the cutting edge of things like this. If they want to say that we do not want to build any more plants in this state, nuclear, coal or otherwise, and the only way we can avoid that is by continuing to become more energy efficient, and therefore, we think the guidelines ought to be much more stringent than the federal standards, that is fine. We would not preempt them anyway because this is largely a voluntary proposition.

But I think if you had something like this, in all fairness, Mr. Rouda and Mr. Stafford, I think if this bill became law and was law for 8 years to 10 years, the first thing you know consumers would be wanting to see this before they bought. That is really fine with me. I do not like the idea of it being all that mandatory. I can tell you, some day it is going to be. I may not live to see it, but I can promise you this sort of thing is going to be mandatory in spades some day because we simply cannot continue ignoring the environmental concerns of the using of energy and we certainly cannot ignore the increasing dependence we have on foreign oil.

Somebody, I forget who it was, it might have been you, Mr. Folsom, who just pointed out the comfort level of the home is important. When I sit in the den of my house on a really cold day when the wind is out of the north, it gets very uncomfortable. I pull the drapes and get as far away from the sliding doors as I can get because those doors were put in at a time when we did not know anything about how to keep the cold air out.

Well, does anybody have something burning that you want to add to this?

Mr. FOLSOM. I have a couple of things that I would like to pursue just briefly. I would like to, if Mr. Rouda would not mind, to use his form to mention this. This is a great idea, and by and large, I think homeowners are interested in a form like this that would provide them with the energy related information. I would like to point out, even in its best intentions, though, a lot of things have to be considered and this is just to give you an idea of the intricacies involved in exhibiting the energy efficiency of a home. Offhand, I do not see a blank on this form that indicates whether the thermo-

stat was set on 82 or 72 in the winter or whether the air conditioning was set on 68 or 78.

Senator BUMPERS. Well, that is a very good point. How would you address that?

Mr. FOLSOM. I would say that that points out the need for a program that maybe tracks this type of information. All I am trying to do is tell you that a lot of details have to be considered that apparently have not been so far, and we just do not feel like—in cases like this there just is no adjustable wrench type solution to some of the details that go with this process.

Also, one other thing that Ron Hughes mentioned in terms of existing programs being evaluated for conformance. Just to point out the possibility of some bureaucracy that might be involved in these programs. This may sound nit-picky, but it is something that occurred to me because it obviously has an impact on my programs nationwide. What does that involve and who pays for it? You see what I am getting into? You see, an evaluation and validation of a program like this, which we do in some localities that already have a program——

Senator BUMPERS. Who pays you, Mr. Folsom?

Mr. FOLSOM. The clients pay me. The utilities who sponsor the program pay me.

Senator BUMPERS. Now do you run this program for, say, Georgia Power and Light?

Mr. FOLSOM. Georgia Power is one of the clients, yes.

Senator BUMPERS. Do they pay you per, I mean, if you do this on a particular home, do they pay you for that work on a contract basis?

Mr. FOLSOM. We do not do it on a per home basis, no.

Senator BUMPERS. How do you do it?

Mr. FOLSOM. We design a package of products and services for each utility who is in our client base. It is a custom designed package every time we put one in place. In other words, the homes are optimized for that particular location. The handbooks, the software, the audio-visual presentations to use with the realtors and the builders are produced on an individual basis for these utilities and we get a package price for doing that work for them. We are kind of a consultant role for them, an energy consultant.

Senator BUMPERS. Does Georgia Power and Light have a program under which if you cut your energy consumption during certain hours of the day, you get a reduced rate during that period?

Mr. FOLSOM. They do not, to my understanding. I can find out for sure and relay that information for the record. At this time, I do not believe that they have a time of use rate, I think, is what you are referring to. Many of our utilities, however, do.

Senator BUMPERS. AP&L does, do they not, Cherry?

Ms. DUCKETT. They have had, and I assume it is still in place.

Mr. FOLSOM. It is becoming a very popular rate across the country.

Senator BUMPERS. Mr. Rouda, did you want to comment on that?

Mr. ROUDA. I do not want to get into a debate with Mr. Folsom, but you do have a copy of this, Mr. Chairman, of the Boulder Area Board of Realtors survey under utility billing information, item

number C, the third line, does ask the seller to point out the range of temperature setting from normal to high.

Senator BUMPERS. I have not had a chance to look at it, but it does have that on it.

Mr. FOLSOM. That is good.

Mr. ROUDA. Thank you.

Senator BUMPERS. Ron, just one last question. Well, Cherry, let me ask you this question. Does AP&L still have an energy rating division where they will go out and do an audit of your home for you if you ask them to?

Ms. DUCKETT. I think on direct request they will, I do not believe that it is real proactive. It is more reactive.

Senator BUMPERS. Ron, do you know the answer to that?

Mr. HUGHES. They laid off their whole conservation division two years ago.

Ms. DUCKETT. They have cancelled out that whole division.

Senator BUMPERS. So they do not have that any more?

Mr. HUGHES. They do not have that. They have an energy service company that they contract with that will deliver that on request.

Senator BUMPERS. Ron, yours is a 503(c) corporation, you say?

Mr. HUGHES. Yes, sir.

Senator BUMPERS. Do you actually go into the home and do ratings on a home?

Mr. HUGHES. On the statewide level in Arkansas, we have a rating system that our shelter industry sits on the board, and we actually do ratings on the houses by request.

Senator BUMPERS. What do you charge? How do you charge?

Mr. HUGHES. There is a range. We charge per house. For the first couple of times that we rate a house for a builder for a new home, for instance, they did not build that house to get it rated, so they do not know what we are going to look for, often times. And so we go through the house and say this is what you have got. If you want to do some improvements and get little things that would get the rating up, these are the things you can do and we will come back and we will check it again. And if you want to use the rating, then we will give you yard signs and brochures to help you, and even run adds in the paper to help you market this. If you do not want to use the rating, which is sometimes the case, because the house did not rate quite as high as they hoped for, then that is in a locked file cabinet and no one knows what the rating is And call us the next time. Something like that, where you are making a coüple of visits, is maybe $150. For builders that routinely get their houses rated, we will do it for $100 a house because we have had quite a bit of support from the State Energy Office and Industrial Development Commission financially. We get a lot of calls from homeowners who cannot afford to pay for a rating at all, and we do those at no charge.

Senator BUMPERS. Well, do you have this five star rating system?

Mr. HUGHES. Yes, sir.

Senator BUMPERS. Do you, for example, if a builder calls you out to rate a home, and you rate it five star, do you have some kind of a system by which he can put that in the front yard and say this home has been rated five star by Good Cents?

Mr. HUGHES. No, because it is not a Good Cents. It is an energy rated homes rating. Now, if we had a Good Cents utility in the state that wanted to participate, then we—Good Cents is a certification program. We view that as not a rating system. It says if you do these ten things or certain things, we label you a Good Cents House. And that is what most——

Senator BUMPERS. You label it as what?

Mr. HUGHES. A Good Cents House or an Energy Wise Home would be the gas company's rating system, for instance, or their certification program. So if a builder exceeds those standards, there is no extra credit typically. If you do 9 and not 10, you do not get any credit. So it is a pass-fail kind of a thing. So you really cannot compare it with other houses because it is efficient compared to what. With our system we have this hundred point scale divided up into stars and in Arkansas, if you want the four star house, which is the efficient house, you have to be up to 70 points on the scale. You have to be saving 70 percent of all you can save for that house type in that climate zone. And that is what is interesting about a rating system that can work in Alaska and Arkansas, which this one does. To save 70 percent in Alaska, you use the same scale, but it takes more insulation and a tighter house. So how can you have a uniform system and still be responsive to the climate and house types. And so that is one approach. That is the approach that we feel is—we are comfortable with it. It is working.

Most of the time, when you look at the rating systems around the country, you will see about $100 to $150 is about the average. Vermont is about to boost theirs up because they have got to do a lot of ratings to lower the price.

Senator BUMPERS. Do any realtors call you to ask you to rate houses or do consumers call you more than realtors?

Mr. HUGHES. It is about a 50–50 mix of new houses and existing houses. It is buyers as much as—it is hard to say that one calls more than another. Sometimes a lender will say we can almost qualify this buyer, but not quite, and the builder says it is a good house. If you can rate it efficient, we can get them in. And so we will go out and rate that house. We do not have many five star plus houses. That is an ultimate house. That is a redesign. We have only rated three in the whole state out of 600 houses. Orlow Studat, north in Arkansas rates those. He has got heat pumps sitting out beside his house that never come on and do not need to turn on. It is just that the lender required them to be there before they would finance the house. So sometimes, somebody like that says, I want my house rated, because I am spending a lot of extra money and I want to be able to validate that. And then sometimes, it is the buyer who says I want to know what I am buying and what can I do to make it better.

Senator BUMPERS. How often do you have an opportunity to say to somebody that for some additional amount of money you can save a certain amount of money? In other words, on these energy mortgages?

Mr. HUGHES. Every time we rate a house, we do that. Now how often is that used in the mortgage process?

Senator BUMPERS. Very seldom?

Mr. HUGHES. Seldom.

Senator BUMPERS. That is what I thought.

Mr. HUGHES. And see, no one is going to tell the buyer because we do not want to slow down the loan process, we do not want to add to closing costs. Now if we could just finance the cost of the rating, you would not add to closing costs, which is a very simple, one of those little policy changes, just a little thing. If we did what we are doing right here in Boulder and informed the buyer on the front end or the seller before they ever go out on the street with it, which I bet is what South Carolina is going to do. Because this is a great opportunity for the realtor. Because when you got a buyer coming in, you say, okay, how much money does this guy make? How much house can they afford? And that is all I am going to show them because you are wasting your time and theirs. But if you look at stretching those ratios for that efficient house, suddenly you have got more houses to show. So you say, well why is this not used in the mortgage process? Well, first of all, we are not showing the people the houses where a stretched ratio would get them in, so we do not see it reflected. We do not see people doing that.

Senator BUMPERS. Well, gentlemen and Cherry, thank you all for being with us this morning. We appreciate this. We will probably submit additional questions to some of you for the record because we want to do our best to accommodate the more serious concerns you have voiced here this morning and probably amend this Bill considerably and re-introduce it or change it for markup and go from there. Thank you again for your time this morning.

[Whereupon, at 11:42 a.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

The ALLIANCE To Save Energy

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World Wildlife Fund-The Conservation
Foundation

Stephen E. Ward
Chairman, Energy Coordinating Committee
National Association of Regulatory Utility
Commissioners

James L. Wolf
Executive Director

April 4, 1990

The Honorable Dale Bumpers
United States Senator
Committee on Energy and Natural Resources
SH-212 Hart Senate Office Building
Washington, DC 20510

Dear Senator Bumpers:

Enclosed you will find responses to the follow-up questions you sent me on S. 1355, subsequent to my testimony at the March 27, 1990 hearing on the bill.

I am available to help the Committee develop this bill further. Thank you for your interest in this essential issue.

Sincerely,

William R. Prindle
Senior Program Manager

enclosures

RESPONSES TO QUESTIONS ON S. 1355

(Questions are repeated in bold type.)

S. 1355 authorizes a total of $22 million over four years. Could each of you state how much federal funding you feel is necessary to develop and establish a uniform home energy rating system?

I would like to preface my response by stating that the Alliance advocates **guidelines** for local rating systems, not a single national rating system.

To develop the guidelines as we envision them would require a two to three year effort, funded at about $500,000 per year. Thus we believe the guidelines can be developed for $1.5 million or less.

However, developing the guidelines will not be enough. Technical assistance and training will be needed to educate consumers and the shelter and energy industries in the proper use of these guidelines. This will require a substantial, sustained effort, funded at up to $500,000 per year for five years. This would add about $2.5 million to the cost of the effort.

The third funding need is for "seed money" for state and local organizations seeking to start energy rating programs. Some financial assistance should be offered to government and nonprofit organizations for this purpose. We recommend $15 million be made available for this purpose, with a limit of $300,000 per receiving organization. The Committee may want to make this a 50% matching grant program to encourage state, local and private sector involvement.

Finally, there will need to be an ongoing administrative function to certify rating tools, assist local organizations, perform quality control functions, and related duties. A minimum of $300,000 annually will be needed to support this function.

Several statements reflect a concern that the term "uniformity" suggests an end to the variety of local rating systems.

The Alliance's view is that it is not appropriate to seek a "uniform national rating system", but rather a set of guidelines or standards that local rating systems would adhere to. These guidelines would be built into the design of new rating systems. For existing systems, the guidelines could require operators to do some new things: use a

certified analytical tool, calculate an index value as specified in the guidelines, and to display a label that contains specified information in a certain format. These new features would provide a sufficient level of comparability and consistency to the varied systems now in use. Beyond these requirements the existing systems would operate as before.

We would not favor the use of the word "coordinated" because that implies a level of interaction among rating system operators that may not exist. In fact, some rating system operators, such as utilities, may be in competition in a given area. These systems would not be coordinated; but by meeting certain minimum standards they would be consistent in the information they present and comparable in accuracy.

Given the diversity of opinions we have heard from this panel and from DOE -- in areas such as the degree of flexibility needed, who should lead this effort, linkage with efficiency mortgages -- how optimistic are each of you that, if Congress were to authorize an effort to develop a uniform HERS, then all interested parties could reach the necessary consensus and follow through on implementation?

As we envision the HERS guidelines, the areas in which consensus is needed would be kept to a minimum. Our experience in working with the diverse interests in this area is that differences on concrete issues are bridgeable. The greatest concerns arise on philosophical and institutional grounds -- mandatory versus voluntary ratings, a uniform system versus minimum guidelines, who will control the process, and others. We believe that if S. 1355 takes the philosophical path suggested in our proposal -- of voluntary ratings governed by federal guidelines -- the major interests will support it. If the Department of Energy leads the process with active involvement from stakeholders, the question of control should not be a threat to any interests. And if the bill is designed to be compatible with mortgage incentives, the motivation will exist in the marketplace to implement this policy.

S. 1355 includes a specific list of participants in the development process. Would each of you briefly comment on whether you believe such a list is necessary and helpful, or should participation be open to all interested groups?

The list in S. 1355 is too specific in naming individual organizations. It should more generically list industry, government and public interest groups that should be represented, such as home builders, mortgage lenders, real estate professionals, appraisers, secondary mortgage market institutions, utilities, utility regulators, state and local

governments, nonprofit energy and housing organizations, other federal agencies involved in housing finance, and others designated by the Secretary of Energy. The Secretary should have discretion over who is consulted in the development process; others should be allowed to participate through the normal review and comment procedure.

The testimony from this panel shows a difference of opinions regarding the importance of linking home energy rating systems (HERS) with energy efficient mortgages (EEMs). Some of you suggest that EEMs are a benefit of HERS, others suggest that EEMs are essential to the success of HERS.

It is worth pursuing a national policy on HERS, even if the bill is silent on EEMs. The Alliance is pursuing a mandate for EEMs through S. 566; S. 1355 would complement this initiative. But even if no uniform EEM program is mandated, HERS guidelines would still be worthwhile, if only because of the HERS programs now underway; these efforts should me made more compatible. The EEM incentives ultimately will be needed to achieve wider market penetration of HERS, but lack of an EEM policy will not make HERS useless by any means.

Adding the EEM issue to the HERS development process would indeed make the task more difficult. We propose these efforts be conducted separately, but in close parallel.

DOE and several panelists believe that the selection criteria for the "qualified residential energy efficiency rating organization" with which DOE is contract are too specific. I am concerned that if S. 1355 is not specific on who will have leadership in this effort, then it will bog-down into a struggle for leadership.

We believe that the leadership for this effort should be clear: the U. S. Department of Energy. The bill should give the Secretary a clear mandate and time schedule for developing guidelines. If DOE does not have statutory authority to do this, there is question whether the guidelines can be legally called federal guidelines, and thus whether they will be enforceable. There is in our view no way around the principle that carrying out Congress' mandate on HERS is an executive branch responsibility. Assigning the lead to a non-federal entity runs the risk of subjecting the process to claims of special interest control. Any group that controls the process would be seen as advancing certain interests. For instance, designating an existing rating organization could be viewed as similar in philosophy to asking IBM to design computer specifications for the Navy! This could damage the credibility of the process and the enforceability of the guidelines.

The bill should require DOE to seek active involvement from the stakeholders in the HERS area, so that the process does not become too narrow or bureaucratic.

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May 2, 1990

The Honorable Dale Bumpers
Committee on Energy and Natural Resources
212 Senate Hart Office Building
Washington, DC 20510

Dear Senator Bumpers:

In response to your request for additional information regarding home energy rating systems, below are the NATIONAL ASSOCIATION OF REALTORS® responses:

1.) S. 1355 AUTHORIZES A TOTAL OF $22 MILLION OVER FOUR YEARS. COULD EACH OF YOU STATE HOW MUCH FEDERAL FUNDING YOU FEEL IS NECESSARY TO DEVELOP AND ESTABLISH A UNIFORM HOME ENERGY RATING SYSTEM?

We do not possess the technical expertise needed to determine the required federal funding to carry out a uniform home energy rating system.

2.) SEVERAL STATEMENTS REFLECT A CONCERN THAT THE TERM "UNIFORMITY" SUGGESTS AN END TO THE VARIETY OF LOCAL RATING SYSTEMS. COULD EACH OF YOU COMMENT ON THE FEASIBILITY OF DEVELOPING A "NATIONAL" SYSTEM WHICH WOULD DRAW THE VARIETY OF LOCAL RATING SYSTEMS CLOSER TOGETHER - MAKE THEM MORE COMPARABLE AND UNDERSTANDABLE? IS "COORDINATED" A BETTER DESCRIPTION OF THE POLICY OBJECTIVE HERE - INSTEAD OF "UNIFORM"?

The NATIONAL ASSOCIATION OF REALTORS® believes that energy ratings should be more accessible to the public and a consistent method conducting energy ratings or audits may assist in meeting that goal. Currently, consumers have no basis of comparison for ratings systems because there are no standard elements present for conducting or communicating energy ratings. Comparison can become difficult when the ratings themselves are so different, not only in how the rating is represented, but also in how the rating may be conducted. It should also be noted that because each home owner will have a different lifestyle, for instance the elderly may prefer or need more heat or air conditioning, the energy rating given any particular home can only reflect an ideal energy efficient lifestyle

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which may or may not be the lifestyle of the home owner.

Although we support the concept of consistency in energy ratings, creating "uniform" standards may not be achievable nor practical. The term "coordinated" may serve to address this problem, and should be considered as an alternative to "uniform" when referring to energy audit standards.

3.) THE TESTIMONY FROM THIS PANEL SHOWS A DIFFERENCE OF OPINIONS REGARDING THE IMPORTANCE OF LINKING HOME ENERGY RATING SYSTEMS (HERS) WITH ENERGY EFFICIENT MORTGAGES (EEMS). SOME OF YOU SUGGEST THAT E.E.M.S. ARE A BENEFIT OF H.E.R.S., OTHERS SUGGEST THAT E.E.M.S. ARE ESSENTIAL TO THE SUCCESS OF H.E.R.S. COULD YOU EACH BRIEFLY STATE WHETHER YOU BELIEVE LEGISLATION PROMOTING H.E.R.S. IS WORTH PURSUING IF IT IS SILENT ON E.E.M.S.? DEVELOPMENT OF A CONSENSUS ON HOME ENERGY RATING SYSTEMS WILL BE AN EXTREMELY DIFFICULT TASK. HOW MUCH MORE DIFFICULT IS THIS TASK MADE BY INCLUDING ENERGY EFFICIENT MORTGAGES?

The NATIONAL ASSOCIATION OF REALTORS® believes that coordinated energy rating system may help ease the inclusion of energy improvements in mortgages. The success of uniform ratings systems should be based on their ability to increase the frequency of usage of energy efficient mortgage programs, as well as their ability to increase the energy awareness of occupants, whether they be owners or renters, buyers or sellers. The E.E.M.S. and H.E.R.S. should not be seen as a complimentary benefit of one another, but rather should be considered part and parcel of the process of making homes more energy efficient as well as affordable. Conducting an energy rating without providing a mechanism for retrofitting--such as that which exists in the E.E.M.S.--serves little purpose on its own. Not only should ratings provide information to consumers on how to make a home more efficient, assuming that it is inefficient, the consumer should also be able to obtain a rating that will allow the use of the energy efficient mortgage programs.

While it may become more burdensome to create such a system, it is important that consumers be given the best available information needed to comply with the requirements of the various energy efficient mortgage programs. It makes no sense to create a standard for energy ratings that may not satisfy the requirements or informational needs of the various energy efficient mortgage programs.

4.) S. 1355 INCLUDES A SPECIFIC LIST OF PARTICIPANTS IN THE DEVELOPMENT PROCESS. WOULD EACH OF YOU BRIEFLY COMMENT ON WHETHER YOU BELIEVE SUCH A LIST IS NECESSARY AND HELPFUL, OR SHOULD PARTICIPATION BE OPEN TO ALL INTERESTED GROUPS?

The NATIONAL ASSOCIATION OF REALTORS® believes that an advisory structure, as that created within S. 1355, is indeed useful. However, this must be coupled with an open and consultative public comment process that would allow all those interested to participate in the process.

5.) **GIVEN THE DIVERSITY OF OPINIONS WE HAVE HEARD FROM THIS PANEL AND FROM DOE -- IN AREAS SUCH AS THE DEGREE OF FLEXIBILITY NEEDED, WHO SHOULD LEAD THIS EFFORT, LINKAGE WITH EFFICIENCY MORTGAGES -- HOW OPTIMISTIC ARE EACH OF YOU THAT, IF CONGRESS WERE TO AUTHORIZE AN EFFORT TO DEVELOP A UNIFORM HERS, THEN ALL INTERESTED PARTIES COULD REACH THE NECESSARY CONSENSUS AND FOLLOW THROUGH ON IMPLEMENTATION?**

While we are all coming at this issue from different perspectives, the NATIONAL ASSOCIATION OF REALTORS® is committed to working with the shelter industry representatives, as well as other interested parties in resolving any conflicts dealing with home energy efficiency. As long as each of the groups of diverse opinion are willing to communicate on these issues, we remain very optimistic that consensus, when and where necessary, can be reached.

6.) **DOE AND SEVERAL PANELISTS BELIEVE THAT THE SELECTION CRITERIA FOR THE "QUALIFIED RESIDENTIAL ENERGY EFFICIENCY RATING ORGANIZATION" WITH WHICH DOE IS TO CONTRACT ARE TOO SPECIFIC. I AM CONCERNED THAT IF S. 1355 IS NOT SPECIFIC ON WHO WILL HAVE LEADERSHIP IN THIS EFFORT, THEN IT WILL BOG-DOWN INTO A STRUGGLE FOR LEADERSHIP. WOULD EACH OF YOU COMMENT BRIEFLY--IF S. 1355 IS NOT NARROW IN ITS OPTIONS FOR LEADERSHIP, THEN DO YOU THINK THIS PROCESS WILL BOG-DOWN? IF IT WERE YOUR DECISION, WHOM WOULD YOU PUT IN CHARGE: DOE, AN EXISTING RATING ORGANIZATION, A NON-PROFIT ASSOCIATION...?**

While establishing a key group to administer the energy rating program is essential, it is equally important that the bidding process conducted by the DOE is fair and impartial and considers all likely candidates on an equal basis. Currently, as the legislation stands, there is only one group that would qualify for this very lucrative DOE contract. While their system may be successful in various parts of the country, there may also be other systems equally as successful. While it may serve to slow the process somewhat, in the long run, consumers will benefit by allowing an open bidding process that equitably assesses potential contractors.

For what appear to be obvious reasons, the DOE and Congress must have oversight authority on whomever is awarded the contract to develop the uniform rating system.

Thank you for the opportunity to express the views of the NATIONAL ASSOCIATION OF REALTORS® on this issue of vital importance. We look forward to working with you and other members of the Committee in the future.

Sincerely,

Harley Rouda

Harley Rouda
President-Elect

National Association of Home Builders
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MAY 10 11 34

May 9, 1990

The Honorable Dale Bumpers
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Senator Bumpers:

This is in response to your request that we answer additional questions in connection with our recent appearance before the Subcommittee on Energy Regulation and Conservation during hearings on S.1355.

Our answer to your questions, following a restatement of the questions, is attached.

I appreciated the opportunity to testify before the Subcommittee and want you to know that the National Association of Home Builders looks forward to working with you to develop constructive legislation regarding a voluntary residential energy efficiency rating system.

Sincerely,

Don Stafford

Enclosure

ANSWERS TO QUESTIONS SUBMITTED FOR THE RECORD

on

S.1355

before the

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

1. Could each of you comment on the feasibility of developing a "national" system which would draw the variety of local rating systems closer together -- make them more comparable and understandable?

   NAHB believes that the development of "national guidelines" rather than a "national system" would be a more appropriate way to address the issue. With national guidance on critical, common components, states and localities would have the flexibility to apply the guidelines, while incorporating considerations of local climate, local energy and construction and remodeling costs, as well as local housing market characteristics.

2. Is "coordinated" a better description of the policy objective here -- instead of uniform?

   As long as the legislation allows for state and local flexibility in the implementation of rating systems, based on national guidelines, NAHB believes it makes no difference whether the term "coordinated" or "uniform" is used to describe the policy objective. However, "uniform" probably would be a better descriptive term, since we believe the key to the whole effort is a <u>uniform energy efficient mortgage program</u>.

3. S.1355 authorizes a total of $22 million over four years. Could each of you state how much federal funding you feel is necessary to develop and establish a uniform home energy rating system (HERS)?

   We believe that $5 million probably would be sufficient to develop uniform energy rating guidelines and to provide technical assistance over four years. However, additional funding would be necessary to provide state and local organizations with the "seed money" to start energy rating programs. This could be on the order of $15 million as suggested by the Alliance to Save Energy. Thus, the authorization in S.1355 should be adequate.

PAGE TWO -- **ANSWERS TO QUESTIONS SUBMITTED FOR THE RECORD (S.1355)**

4. Given the diversity of opinions we have heard from this panel and DOE -- in areas such as the degree of flexibility needed, who should lead this effort, linkage with efficiency mortgages -- how optimistic are each of you that, if Congress were to authorize an effort to develop a uniform HERS, then all interested parties could reach the necessary consensus and follow through on implementation?

   NAHB believes that the effort should be led by a collaborative public/private sector partnership. Given the progress that already has been made, we are confident that DOE and industry participants can reach a consensus on uniform guidelines. Implementation will require a similar collaborative effort at the state and local level.

5. If S.1355 is not narrow in its options for leadership, then do you think this process will bog down?

   We believe that the process could bog down regardless of how the leadership process is defined, unless due consideration is given to a collaborative consensus-based process.

6. If it were your decision, whom would you put in charge: DOE, an existing organization, a non-profit organization?

   We believe that all parties involved have a stake in developing valid, accurate and supportable uniform guidelines. With that in mind, we would recommend that DOE be charged with organizing and administering the consensus process to develop uniform guidelines. However, we also believe that there should be a significant role for the Department of Housing and Urban Development in the development process.

7. Could each of you briefly state whether you believe legislation promoting HERS is worth pursuing if it is silent on Energy Efficient Mortgages (EEMS)?

   It is our position that legislation promoting HERS is not worth pursuing if it is silent on EEMS.

8. Development of a consensus on home energy rating systems will be an extremely difficult task. How much more difficult is this task made by including energy efficient mortgages?

   Given the right resources and working through an open process, we do not believe that developing a consensus on the voluntary guidelines for HERS should be particularly difficult. Furthermore, the development of a uniform energy mortgage program should not create much additional difficulty.

9. S.1355 includes a specific list of participants in the development process. Would each of you briefly comment on whether you believe such a list is necessary and helpful, or should participation be open to all interested groups?

We believe that the listing contained in S.1355, which includes the National Association of Home Builders, is both necessary and helpful, and relatively complete. However, we do believe that as the process evolves, all interested parties, including HUD, should be given the opportunity to provide input.

APPENDIX II

Additional Material Submitted for the Record

BEFORE THE
UNITED STATES SENATE
SUBCOMMITTEE ON ENERGY REGULATION & CONSERVATION
COMMITTEE ON ENERGY AND NATURAL RESOURCES

WRITTEN TESTIMONY OF THE

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS
1102 INTERSTATE COMMERCE COMMISSION BUILDING
P.O. BOX 684, WASHINGTON, D.C. 20044-0684
TELEPHONE: (202) 898-2200

ON

S. 1355

THE RESIDENTIAL ENERGY EFFICIENCY RATINGS ACT

MARCH 27, 1990

WRITTEN TESTIMONY OF THE
NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS
ON S. 1355, "THE RESIDENTIAL ENERGY EFFICIENCY RATINGS ACT"
BEFORE THE SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE
MARCH 27, 1990

The National Association of Regulatory Utility Commissioners (NARUC) respectfully requests that its views be included as part of the Subcommittee's record for consideration of S. 1355, "The Residential Energy Efficiency Ratings Act."

The NARUC is a quasi-governmental, non-profit organization founded in 1889. Within its membership are the governmental agencies of the fifty States, the District of Columbia, Puerto Rico and the Virgin Islands engaged in the regulation of carriers and utilities.

At its Winter Meeting in February, the Executive Committee of the NARUC adopted a policy resolution supporting a nationwide residential energy efficiency rating systems as one component of the Department of Energy's National Energy Strategy. A copy of this resolution, which was sponsored by the NARUC Committee on Energy Conservation, is attached to these comments.

As stated in the resolution, the NARUC supports the principles expressed in S. 1355 and any other legislation that seeks to authorize and appropriate funds for a voluntary, home energy efficiency ratings system. While the NARUC finds the objectives of S. 1355 agreeable, we believe that maximum flexibility should be given to the type of organization selected to develop a nationwide home efficiency ratings system.

Legislative language should not be restrictive, but should encompass a number of entities that are capable of performing unbiased, objective ratings of total utility costs, including space heating and cooling, HVAC equipment and water heating efficiencies and appliances.

While supportive of national guidelines for a ratings system, the NARUC believes that states, local governments and other entities should be able to run their own ratings systems. Having a voluntary as opposed to a mandatory system is consistent with this objective, as any system will have to be adapted to different geographical, economic and social conditions that exist in the various states. Moreover, many states have already taken the initiative and developed their own energy efficiency ratings programs.

State utility regulators have an important role to play in the development and implementation of home energy efficiency ratings systems. In Wisconsin, for example, a residential energy efficiency rating system is being developed jointly by the Class A utilities and the Public Service Commission. This system will replace the Residential Conservation Service program and serve as a vehicle to deliver conservation services to residential customers. The rating system will apply to new and existing homes, and will analyze and rate heating, air conditioning, and water heating as well as the thermal efficiency of the building. The rating scale will be from 1-10, with 10 being the best rating. Multi-family buildings may also be included in the rating program. Other state programs are

under way in Rhode Island, Arkansas, Vermont, Alaska and Washington.

In summary, the NARUC fully supports the concept of residential energy efficiency ratings systems. These systems provide tremendous energy conservation benefits, and offer to expand the pool of affordable housing while having a positive impact on the greenhouse effect and global warming.

The NARUC stands ready to assist the Subcommittee as it begins work on legislation authorizing and appropriating funds for the development of a voluntary, home energy efficiency ratings system. We appreciate the opportunity to submit our comments on this important issue.

Resolution in Support of Residential Energy Efficiency Ratings Systems

WHEREAS, *A national home energy efficiency ratings system will have conservation benefits, expand the pool of affordable housing, and have a positive impact on the greenhouse effect and global warming; and*

WHEREAS, *Pilot uniform, voluntary, nonprofit energy efficiency ratings systems are now being successfully implemented in Rhode Island, Arkansas, Vermont, Alaska, Mississippi, and Washington; and*

WHEREAS, *These pilot efforts are operated by nonprofit entities and were developed through the voluntary cooperation of lenders, mortgage insurers, real estate professionals, appraisers, and builders, with the support of State energy offices, often utilizing oil overcharge funds; and*

WHEREAS, *A number of entities are capable of performing unbiased, objective ratings of total annual utility costs, including space heating and cooling, HVAC equipment and water heating efficiencies, lights, and appliances; and*

WHEREAS, *Federal support is essential for the establishment of similar programs in all 50 States and the District of Columbia; and*

WHEREAS, *S.1355, sponsored by Senators Dale Bumpers (D-AR) and James M. Jeffords (R-VT), would direct the Secretary of Energy to: (1) select a qualified residential energy ratings organization to develop a ratings system in consultation with participants in the residential shelter industry, energy conservation officials and others; (2) set standards for State energy rating organizations; (3) provide training and technical assistance; (4) maintain a national residential energy efficiency data bank; and (5) authorize Federal funds to support theses efforts for four years, after which time the organization is intended to be self-sufficient; now, therefore, be it*

RESOLVED, *That the Executive Committee of the National Association of Regulatory Utility Commissioners (NARUC), assembled at its 1990 Winter Committee Meeting in Washington, D.C., requests the Secretary of Energy and the President of the United States to include a national home energy efficiency ratings system with the attributes described herein in the National Energy Strategy now being developed; and be it further*

RESOLVED, *That the Executive Committee of the NARUC urges Congress to enact legislation to authorize and appropriate funds to promptly implement a voluntary, home energy efficiency ratings system in all fifty States and the District of Columbia.*

Sponsored by the Committee on Energy Conservation
Adopted February 28, 1990

1125 Fifteenth Street, N.W.
Washington, D.C. 20005
202-861-6500

Mortgage Bankers Association of America

April 10, 1990

The Honorable Howard Metzenbaum
Chairman
Subcommittee on Energy Regulation and Conservation
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman,

The Mortgage Bankers Association of America appreciates the opportunity to submit the attached statement for the hearing record on S 1355, a bill to assist private industry in establishing a uniform residential energy efficiency rating system.

The statement describes our appreciation of the Committee's effort to address uniformity in residential energy rating systems. As representatives of the lending community, we believe we can best serve the Subcommittee by describing the current energy efficient mortgage programs (EEM's) and some features of this mortgage market. At present, there is a wide variety of energy efficient mortgage products. Standardized energy efficient rating systems or guidelines would facilitate lender review and approval of energy efficiency improvements. MBA believes that adequate market experience with uniform rating systems or guidelines is necessary to determine which EEM will best serve the consumer without requiring the lender to undertake new and risky mortgage products.

We would be happy to respond to any additional requests.

Sincerely,

Burton C. Wood

Enc.

1125 Fifteenth Street, N.W.
Washington, D.C. 20005
202-861-6500

Mortgage Bankers Association of America

STATEMENT OF

THE MORTGAGE BANKERS ASSOCIATION OF AMERICA

before the

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

COMMITTEE ON ENERGY AND NATURAL RESOURCES

UNITED STATES SENATE

HEARING ON S 1355

"THE RESIDENTIAL ENERGY EFFICIENCY RATINGS ACT"

MARCH 27, 1990

The Mortgage Bankers Association of America (MBA)* is pleased to have this opportunity to submit this statement on S 1355, a bill to assist private industry in establishing a uniform residential energy efficient rating system.

MBA appreciates the Subcommittee's effort to address uniformity in residential energy rating systems. A number of companies and lenders presently use a wide variety of rating systems throughout the real estate industry. This great variety does create problems for lenders who do not have expertise in this area. Consequently, the direction to the Secretary of the Department of Energy to develop and administer a uniform residential energy rating system represents a positive step forward, because it would be helpful to the real estate industry to have standardized energy rating systems or guidelines.

*The Mortgage Bankers Association of America is a nationwide organization devoted exclusively to the field of housing and other real estate finance. MBA membership comprises mortgage originators and servicers, as well as investors, and a wide variety of mortgage industry-related firms. Mortgage banking firms, which make up the largest portion of the total membership, engage directly in originating, selling, and servicing real estate investment portfolios. Members of MBA include:

Mortgage Banking Corporations	Mortgage Brokers
Commercial Banks	Title Companies
Mutual Savings Banks	State Housing Agencies
Savings and Loan Associations	Investment Bankers
Mortgage Insurance Companies	Real Estate Investment Trusts
Life Insurance Companies	

MBA headquarters is located at 1125 15th Street, N.W., Washington, D.C. 20005; telephone: (202) 861-6500.

Uniformity in rating systems would undoubtedly facilitate consumer confidence in ratings companies; however, consumer education efforts fostering understanding of and demand for the cost savings associated with energy efficiency must be an integral part of any Federal program.

When consumers, lenders and agencies have practical experience with uniform ratings systems or guidelines, we believe that one or two approaches to financing energy improvements with an Energy Efficient Mortgage (EEM) will emerge. These market- proven programs could then serve as models for uniform EEM programs sponsored by private lenders and the major mortgage guaranty agencies -- the Federal Housing Administration (FHA), the Department of Veterans Affairs (VA), the Federal Home Loan Mortgage Corporation (FHLMC) and the Federal National Mortgage Association (FNMA). Thus, market experience with the rating systems would ultimately lead to the development of a uniform Energy Efficient Mortgage program.

As representatives of the lending community, we believe we can best serve the Committee by simply describing current EEMs and some features of this mortgage market.

4

The EEM Market

Since the 1970's, FHA, VA, FHLMC and FNMA programs have been available to assist home buyers in making energy improvements to new and existing housing. Lenders underwrite mortgages based on both the value of the mortgaged property, and the financial ability of the borrower to meet the mortgage payments. EEMs enable a potential homebuyer or present homeowner to receive special underwriting consideration for existing energy efficiencies, or for energy improvements to be made to the home. Under the "stretch ratio" underwriting formula, for example, a home buyer can qualify for a more expensive home by increasing the amount of debt he/she is expected to be able to carry. In another approach, a deduction is taken from estimated monthly expenses based on anticipated monthly energy savings.

Alternatively, a home can be valued higher than the market comparables based on the present value of the existing energy improvements. FHA, VA, FHLMC and FNMA each have taken different approaches in considering these energy factors in their under writing.

The actual number of homebuyers and remodelers taking advantage of EEM programs has been relatively small to date, which MBA believes is due to a sharp reduction in energy costs in recent years. As described in more detail below, this reduced cost resulted in reduced consumer demand for EEMs throughout the 1980's. In addition,it is generally not cost effective for real estate

industry participants to offer a program for which there is limited demand. Because there were few consumers who demanded energy improvements in the 1980's (a period of low energy costs), the limited numbers of lenders who have offered EEMs appear to have met existing demand. However, there are indications that consumer demand for these products is increasing today, and this is a welcome development.

I. The Impact of Energy Cost on Consumer Demand:

MBA believes that the reduction in energy cost from the 1970's resulted in reduced demand for energy efficiency improvements and thus reduced demand for mortgage money for that purpose. Lower energy costs reduce the demand for energy improvements in two ways. First, lower costs present a decreased burden on consumers and lessen the likelihood that they will initiate conservation measures. Second, lower and declining energy costs, combined with fixed financing costs, produce minimal net savings.

To illustrate this second point, assume that a homebuyer finances $5,000 in energy improvements to increase his mortgage from $80,000 to $85,000. The homebuyer expects to reduce his monthly energy bill by 33 percent. The current owner pays $200 a month in energy payments, so the buyer assumes his monthly energy savings will be $66. At an interest rate of 10 percent the $5,000 improvement will

cost $44 a month over 30 years, so he assumes he can achieve a net monthly savings of $22.

The table below shows that, even assuming that the 33 percent savings estimate is accurate, net savings are directly related to the cost of energy. Because mortgage costs remain constant, this savings is significantly reduced in low energy cost environments.

Monthly Energy Cost	$200	$150	$100	$75
33 percent savings	66	50	33	25
Mortgage Expense	44	44	44	44
Net Savings	22	6	(11)	(19)

Clearly, EEMs have a much more favorable impact on overall housing costs in high energy cost environments. However, whereas mortgage expense is fixed, utility (energy) costs vary according to factors such as lifestyle, energy prices, climate, and season. Therefore, one cannot assume that EEMs used to finance new energy improvements will always have a positive impact on consumers' net monthly housing expenses, and therefore help them afford homes they would not otherwise be able to afford.

II. Lender Perspective:

There is a significant difference between EEMs that finance energy efficient homes and EEMs that finance new improvements.

Use of a "stretch ratio" or other underwriting tool for a well-documented existing energy efficient home is an uncomplicated process that requires virtually no special training or additional underwriting expertise. The decision to seek this type of EEM should be made at the time a contract of sale for the home is signed, since the seller would be able to demonstrate the energy efficiency level of his/her home at that time.

On the other hand, EEMs used to finance energy improvements at the time of sale can complicate the loan process and delay settlement. There is also a risk in ensuring sound and effective improvements, and additional responsibilities in adequately administering the escrows for the improvements. Decisions about using EEMs to facilitate adding energy improvements should be carefully considered by the homebuyer prior to loan application, and should be used by the borrower as one criterion for selecting a lender.

Those lenders who specialize in financing this type of product today often use their own staff appraisers and are successful in serving what they believe to be a niche market. As a result, they have made investments in their training and administrative operations with the assumption that they will be one of the few EEM "experts" and will completely fulfill market demand.

EEMs to finance new improvements are much more complex than typical

mortgages, and require special expertise and consumer sophistication. Consequently, while the EEM, with adequate safeguards (higher equity requirements, for example), has some benefits that would enhance its quality, it is not for every borrower or lender. Furthermore, demand for the program in low energy cost environments does not warrant requiring every lender and appraiser to make the investments necessary to adequately process and underwrite these loans.

Unlike other actors in the residential real estate transaction, a lender takes a risk position on every loan it originates, purchases and/or services. Mortgage defaults have a major impact on the government agencies and private companies who guarantee, insure and/or purchase these loans, and on the lender itself. Quality is the most important factor in the successful lender's determination of how to do business.

To be competitive, the most successful lenders will provide the quality services that their customers (real estate agents, builders and home buyers) demand: low costs, quick processing, prudent underwriting and easy closing. Because of its complexity, the EEM used to finance new improvements adversely impacts the typical lender's ability to deliver these services.

EEMs used to finance new improvements must be carefully monitored

and processed to avoid unnecessary energy improvements, costly errors in estimated savings and applicant-borrower confusion. If improperly processed and underwritten, EEMs become high risk, low equity loans, and, as a result, may be of poor quality. Such mortgage loans would present significant default risk to lenders, investors and federal guaranty agencies. Requiring all lenders and appraisers to be EEM experts, on the other hand, would add unnecessarily to training and administrative costs without the offsetting benefit of additional business.

Conclusion

By encouraging the creation of a uniform energy rating system, the Committee is taking steps toward increasing the number of consumers interested in energy conservation and EEMs. Today, real estate agents and builders who are aware that a borrower can use EEM programs can refer him/her to a niche lender that provides this service. We believe that existing demand is being met, and that when increased demand exceeds the capacity of present niche lenders, other lenders will step in.

Development of a uniform rating system, as requested in S 1355, or uniform guidelines, will eventually lead to creation of a uniform EEM. Adequate experience with the uniform rating system or guidelines is necessary to determine which EEM approach can best serve the consumer without requiring the lender to undertake the

risk of a new and complicatd product.

MBA appreciates this opportunity to comment on your effort to address this important issue. We will be happy to respond to any questions or additional requests.

STATE OF COLORADO

OFFICE OF ENERGY CONSERVATION
Department of Regulatory Agencies
112 East 14th Avenue
Denver, Colorado 80203
Phone (303) 894-2144

Roy Romer
Governor
Steven V. Berson
Executive Director, D.O.R.A.
Karen Reinertson
Director

March 25, 1990

The Honorable Timothy Wirth
Russell Senate Building, Room 380
First & Constitution, S.E.
Washington, D.C. 20510

Dear Senator Wirth:

The State of Colorado, through the Governor's Office of Energy Conservation (OEC), is in the process of developing a Home Energy Rating System (HERS). We are pleased to see that legislation has been introduced, Senate Bill 1355, to set national standards for HERS.

The Colorado HERS was funded in 1986 through executive order of the Governor with oil overcharge funds. A Task Force, appointed by Governor Romer and composed of members of the shelter industry, advises the OEC on issues related to the HERS. Preliminary marketing studies were done in 1987 and 1988. The OEC is currently engaged in modifying a computerized energy analysis tool that was originally designed for the City of Ft. Collins. We anticipate having modifications completed later this year with a year of pilot testing to follow. At that time we intend to have the HERS available for use statewide.

We have reviewed S 1355 and wish to submit our comments (see Attachment A). Additionally, the OEC has developed a list of considerations for the design and implementation of a HERS (Attachment B).

We appreciate having the opportunity to comment on S 1355. If we can provide you with additional information, please contact me.

Sincerely,

Karen Reinertson

Karen Reinertson
Director

KR:ca

cc: Senator Jeffords, Vermont
Senator Bumpers, Arkansas
Bill Prindle, Alliance to Save Energy
Joel Saltzman, Committee on Energy and Natural Resources
Frank Bishop, National Association of State Energy Officials

Attachment A

Colorado Office of Energy Conservation

COMMENTS

on the
Residential Energy Efficiency Ratings Act
Senate Bill 1355

The following comments are organized by section numbers of the bill as printed in the Congressional Record of July 19, 1989.

Sec. 2 (5)(A)(i). This implies the need for development of ratings that can be compared with other housing stock. The idea of comparing ratings is a good one. However, we are concerned that "locality" is not defined. Comparison of housing stock for energy efficiency is best done within similar weather zones. The parameters of what defines a "locality" for energy efficiency ratings should be clearly stated.

Sec. 2 (5)(C). A non-profit is suggested as the most appropriate "qualified residential energy efficiency rating organization". This is not a bad idea by itself, but it isn't clear how this non-profit will assume the programs the States or other local units of government have developed or are developing. Does the OEC need a strategy to spin-off HERS to a non-profit when the time is right?

Sec. 2 (5)(D) and Sec. 3 (c)(2). The non-profit needs to be self-sustaining financially after the federal subsidies proposed in this legislation end in the mid-1990s. This is a good idea, but we are not aware of any feasibility study or research that would verify that a financially independent HERS will work. Our assumption is that the fees needed to sustain a HERS, independent of subsidy, would have to be so high that it would discourage voluntary use of the program.

Sec. 2 (6). This section seems to imply that only the "rating system" developed by the residential energy efficiency rating contractor pursuant to section 3(a) is a qualified rating system. It is not clear anywhere in this bill how or where the existing rating systems, or those in development independent of this bill, qualify either as technically sound systems or as eligible systems for funding. The OEC believes that existing HERS must be acknowledged in this bill and a mechanism outlined for upgrading/adjusting to these standards.

Sec. 2 (7). The definition of residence in this bill includes multi-family buildings, and multi-purpose buildings that contain a residential unit, such as units above stores. We would have no trouble complying with this if each residential unit had an independent and self-contained heating and cooling system. It would be extremely expensive to adapt our HERS so that it could rate multi-family buildings that share a common heating, cooling or domestic hot water heating system.

Sec. 3 (b)(1)(A). This states that a monthly energy cost estimate be part of the rating methodology. The OEC currently plans only an annual energy cost estimate from the rating. We believe the annual cost is more useful over the long term. The problem with monthly estimates is that they are more likely than an annual estimate to be wrong, thereby reducing the credibility of the rating.

Sec. 3 (b)(1)(B). The OEC would prefer that the term "cooling" be substituted for the term "air conditioning" in this section.

Sec. 3 (b)(1)(C)(i). The OEC believes that the rating scale should accurately reflect the energy "use", in Btu/sf/dd, rather than the energy costs associated with each aspect of the structure. Energy costs vary by region and by fuel type, while energy use remains a constant. Energy use could easily be transferred to energy costs through a simple entry in the program and would provide a better method of comparing ratings at a regional and national level.

Sec. 3 (b)(1)(C)(ii). The phrase "a statistically acceptable manner" needs to be defined. To whom must the rating scale be statistically acceptable?

Sec. 3 (b)(1)(D). This section states that the HERS be adapted for both manual and computer-aided application. The Colorado HERS has been designed to be a personal computer based energy analysis program. It would be extremely expensive to downgrade it to a manual application. The OEC suggests that the option for manual application be available, but not required.

Sec. 3 (b)(2). This section suggests that recommendations for energy efficiency improvements should be made as one of the products of the energy rating. This has some merits and some liabilities. The potential liabilities have kept the OEC away from stating as a recommendation the most cost effective energy efficiency improvements.

Sec. 3 (b)(3). Statistical verification for accuracy is a good idea. This must be done before the rating system is implemented, not after.

Sec. 3 (b)(5). It is unclear why the Lawrence Berkeley Lab is specifically recommended as the contractor for assistance in developing the rating tool. Have cost comparisons been done to show that this is the only option available with the appropriated funds?

Sec. 3 (c)(1)(A). The idea of a training course for use of the "residential energy efficiency rating methodology" is a good one. However, liability issues related to training should be addressed in the bill. It is unclear who would bear the cost for lawsuits challenging the accuracy of ratings performed by persons trained in this program.

Sec. 3 (c)(1)(C). This section seems to say that there is an opportunity for assistance to state and local energy offices for HERS programs. The OEC supports the need and provision for assistance to the State energy offices, but the type of assistance

outlined is not described. Clarification of the assistance is needed. Is it financial and/or technical assistance and how is it available? Will it need to be matched, or is it available on a formula basis to each State, or is it first come first served?

Sec. 3 (c)(1)(E). Compiling all rating results in a national data bank is a very good concept. The OEC suggests that energy use (Btu/sf/dd) would be a more appropriate energy measure than energy costs, since energy costs are variable by region. (See comments under Sec. 3 (b)(1)(C)(i)).

Sec. 3 (c)(1)(F). It is unclear whether the consultation to be provided by the residential energy efficiency rating contractor is free or whether it is on a fee basis as noted in Sec. 3.(c)(2). The OEC believes that the consultation should be free.

Sec. 3 (c)(2). If the assessment of fees is an option, then the residential energy efficiency rating system contractor is very likely to assess them. Rather than being vague on the assessment of fees, this section should simply state that fees will be charged by the contractor. As it currently reads, the timing for when the fees may be assessed is very unclear. We assume that fees may be assessed before the Federal appropriation is spent.

Attachment B

PREFERRED CHARACTERISTICS FOR A NATIONAL HOME ENERGY RATING SYSTEM (HERS)

Voluntary and Market-Driven Program

1. Preferable to a mandatory program.
2. Opportunity for the private sector to develop ownership in home energy efficiency rating programs as a profit making enterprise.
3. Price competition between home energy efficiency raters would help keep price for energy efficiency ratings at market rates.
4. Market involvement means a reduced financial commitment by government agencies.

Flexibility in Operation

1. A voluntary approach offers flexibility in how the program is carried out at the state level regarding who can be certified and how ratings are offered.
2. Would encourage innovation in marketing methods for home energy efficiency ratings.

Process for Training and Certifying Raters

1. Identify a process for training and certifying home energy raters, although states will want to regulate this process.
2. Allow trained raters to also be:
   - -- real estate appraisers
   - -- utility company personnel
   - -- home inspection company personnel
   - -- independent home energy efficiency rating personnel
   - -- other professionals.

Rating Criteria

1. Include criteria to be rated for energy efficiency in both new and existing homes.
2. Across the country, criteria should include:
   - -- building envelope information including the size, shape and construction, air infiltration insulation, type of doors, skylights and windows, type of foundation, sunspace and solar considerations
   - -- heat loss and heat gain
   - -- efficiency of water heating and mechanical systems (heating, cooling and ventilation systems)
   - -- building orientation on the lot
   - -- weather data for the area
   - -- general lifestyle assumptions

Home Appliances

1. Including major energy consuming appliances in the rating would extend the rating to cover more of the home's total energy usage.
2. Holds some problems for the long-term reliability of the rating. Appliance use varies by occupant lifestyle and consideration for it should be in the lifestyle assumptions sections.

The Rating Product

1. Should provide the occupant with basic information on the energy efficiency of their home including:
   -- A numerical score based on a nominal scale of 0-100 (with 100 the most energy efficient).
   -- Separate scores for each of the different energy types used in the home should be shown. Gas, electric and oil are the primary fuel types used as energy sources in most U.S. homes today.
   -- A summary of how the energy is used in the home. This would include the energy load measured in MMBtu; the energy efficiency for space heating and water heating; the expected annual energy consumed measured in MMBtu and kBtu/sf; the fuel cost measured in $/MMBtu; and the energy cost measured in $/sf.

Incentives in Home Buying

1. Should build incentives into the loan qualifying process to allow a homebuyer to qualify for a more expensive house if the house is energy efficient. (An energy efficient house has lower operating costs and thus the owner has more disposable income.)
2. May increase the desire for energy efficient homes through these mortgage breaks:
   -- desire of buyers to purchase such a home
   -- contractors to build these homes
   -- mortgage holders to lend for these homes.
3. Must gain cooperation between the secondary market (Fannie Mae, etc.) and guarantors of the loans. Since most mortgages are obtained from large holding companies that operate on a regional and national basis, there must be a national standard for consistency.

Communication of Rating

1. Direct the delivery of completed rating and explanatory information to owner and the occupant after the house has been rated.
2. Designate posting of rating in the house in a standard location. The hot water heater, furnace or the utility room are likely areas.
3. Include development of a home energy rating information data base.

Energy Rated Homes of Vermont, Inc.
7 Lawson Lane, P.O. Box 5130
Burlington, VT 05402-5130
802/865-3926

"The uniform system of evaluating and rating home energy efficiency"

March 20, 1990

Honorable Howard M. Metzenbaum
Chairman, Energy Regulation and
Conservation Committee
Attn: Joel Saltzman
SD 364
Washington, DC 20510

Dear Senator Metzenbaum:

I have been requested by the Board of Energy Rated Homes of Vermont to write this letter in support of Senate Bill #1355, the Residential Energy Efficiency Rating Act. This bill was introduced by Senator Bumpers of Arkansas and Senator Jeffords of Vermont. The Board feels that it is very important to include a uniform home energy rating system in our National Energy Strategy.

The Board of Energy Rated Homes of Vermont consists of members of the shelter industry which represent realtors, builders, lenders, the Vermont Housing Finance Agency and energy advocates.

The Board of Directors of the non-profit Energy Rated Homes of Vermont understands the benefits of a rating system for increasing energy awareness, encouraging energy improvement in the mortgage process, reducing our nation's consumption of energy, assisting in the reduction of global warming, and making housing more affordable. Vermont adopted the Energy Rated Homes of America (ERHA) Uniform Energy Rating System in 1987 and has been operating a successful program since that time. We have seen some real benefits for Vermont and would envision many more benefits on a much larger scale if S.1355 were passed.

Based on our experience in Vermont and our vision of how a national home energy rating system should work, we would encourage including the following:

1. The numerical "Rating" should be uniform and on a scale of one to one hundred based on the percentage of savings the house is capable of achieving. For instance, a rating of 80 points would mean the house could be expected to save 80% of all it could possibly be expected to save.

2. The rating should not be limited to space heating and cooling, but include HVAC equipment efficiencies, water heating efficiencies, lights and appliances. It should project total annual utility costs.

3. The energy rating and projected energy costs should be accepted by the secondary mortgage market.

4. The rating system should be administered by an unbiased, third-party not-for-profit corporation.

5. The rating should include an "Improvements Worksheet" to prioritize the most cost-effective improvements to upgrade efficiency and the rating.

6. Additional loan money for energy improvements at time of sale as part of the first mortgage should be encouraged at the time of loan application for all home buyers, including FHA, VA, and FmHA.

7. If a home energy rating is to be "required" at time of sale (or rent), the rating should be required ONLY for federally insured or guaranteed FHA, VA or FmHA loans, federally subsidized (Section 8) housing, HUD and VA properties that go into default, and recipients of Low Income Home Energy Assistance Program subsidies.

8. The cost of the rating should be allowed to be financed as part of the mortgage so as not to add to closing costs.

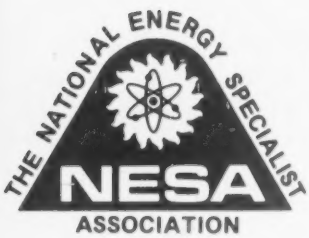
9. A Uniform Loan Processing Procedure should be developed as a companion to a Uniform Energy Rating System.

I would be happy to provide additional input or comments on this important piece of legislation. I hope that you will carefully consider this request and call me with any questions or comments.

Sincerely,

Douglas R. Lothrop
Chairman of the Board

DRL101/jeb



Energy Conservation and Consumer Protection through Professionally Qualified Membership

COMMENTS ON S. 1355

Residential Energy Efficiency Ratings Act

by Frank Newbraugh, Director
National Energy Specialist Association

Our organization, representing over 2000 private energy efficiency contractors, is not in favor of the proposed bill.

We will argue that a uniform residential energy efficiency rating system is:

1. Expensive!
2. Only Another Audit!
3. Only a Snapshot in Time!
4. Not an Assist to Private Industry!
5. Not an Incentive!
6. Not Necessary!!

518 N.W. Gordon • Topeka • Kansas • 66608 • (913) 232-1702

1. A Rating is Expensive!

This bill proposes $22 million over a four year period to set the guidelines and develop a national system for home energy rating. This is a figure similar to the budgets received by the Energy Rated Homes Programs in:

Alaska - $500,000 - program discontinued for lack of success
Washington - $500,000 - program discontinued for lack of success
Arkansas - $500,000 - 625 homes rated
Vermont - $500,000 - 650 homes rated
Rhode Island - $500,000 - 2,000 homes rated (utility program)

These programs have had close to $3 million budgeted to rate only 3,000 homes. Additionally each rating cost between $150 - $300 to perform; thus another $1 million has also been spent.

The bill does not propose the source of funds to actually perform the ratings; but at only $200 per home with 100 million homes to be rated in the U.S., the hidden cost of this bill is another $20 BILLION. Just to rate homes!

2. A Rating is Only Another Audit!

The bill uses the terminology rating in place of the well recognized but negatively connotated term AUDIT. Home audits have been tried repeatedly before and proven to be ineffective implementation systems.

The most recent audit programs were the disastrous Residential Conservation Service Audits performed by most utility companies throughout the country. These RCS audit programs have been

nationally documented as having reached, on average, only 3% of their potential market.

More importantly, only 3% of that 3% ever performed any of the audit proposed options - **that translates to a .0009 success rate.**

These RCS audits had the full resources of utility companies (which was collectively considerably more than $22 million) and were still abysmal failures.

3. A Rating is Only a Snapshot in Time!

Beyond the expense and proven failure rate of these audit / rating programs is the fact that the audit only produces a rating on the home at the present time. After a home has been rated, whether any energy efficiency work has been done or not, at a later time (national average is 6 years) when the home is resold, the rating will have changed with the deterioration over time. The proponents of the rating system propose -- another rating to update the original rating! With 100 million homes requiring an original rating (at $20 BILLION), we would be lucky to be halfway through the job by the time re-ratings would begin! **Add an additional $1.6 BILLION per year forever to the ratings cost!**

4. A Rating is Not an Assist to Private Industry!

A rating system as proposed in this bill is nothing more than a new layer of bureaucracy to be dealt with in the process of delivering energy services to the public. Private industry doesn't need more legislation to get the job done.

5. A Rating is Not an Incentive!

The failure of most other audit programs has been due in large part to the lack of incentive to the homeowner after the audit has been performed. The complexities to be dealt with to take action on the audit:

1. determine which suggestions to follow in which order
2. locate the supplies or services
3. budget time and money for the job
4. hope that the measures will produce some payback

usually stupify the homeowner into inaction.

The public perception is that this is a lot of trouble for a few dollars per month of anticipated savings. Only if there is real assurance of savings or expectation of immediate recoup of expenses on selling the home is there any realization of incentive. A truly implementable system would offer a guarantee of savings to the homeowner.

6. A Rating is Not Necessary!

Most proponents of the bill will ultimately admit that the rating / audit information, in itself, is only of academic interest unless the rating can improve the saleability of the home. They thus see the rating system as the necessary first step to implementing an Energy Efficient Mortgage Program. We have argued in the above sections that the rating will continue to fail to produce the desired energy efficiency upgrades and thus cannot serve to implement the EEM program. The EEM programs themselves have had a terrible track record of .0003 penetration (16,000 out of a potential 60 million homes since 1982 introduction) but an auditing system with a proven failure rate of .0009 is not much of an improvement.

There are, however, alternative programs proposed by NESA which are under contract negotiations with various utility companies and public utility commissions, which call upon a coalition of contractors, realtors, utility personnel, and DOE representatives to deliver the auditing service as part of a sales presentation for an energy efficiency upgrade.

The negotiating parties each contribute services to the program:

1. utilities develop public awareness
2. DOE develops program credibility
3. realtors deliver customers through home resale
4. contractors deliver audits, products, and service

and receive the profits of doing business the American way:

1. utilities manage demand side options
2. DOE achieve a gradual, controlled restructuring of the housing market at a "high" energy efficiency
3. realtors gain more satisfied customers
4. contractors sell products and services

✓ The alternative program requires <u>NO $22 million up front funding</u> and <u>incurs the $20 billion as a cost of doing business</u> - the way free enterprise should be done!